Scientific Society of Hellenic Medical Students

28TH SCHMS

Scientific Congress of Hellenic Medical Students

16th International Forum for Medical Students and Junior Doctors

26th Medical Olympics

13th-15th MAY 2022

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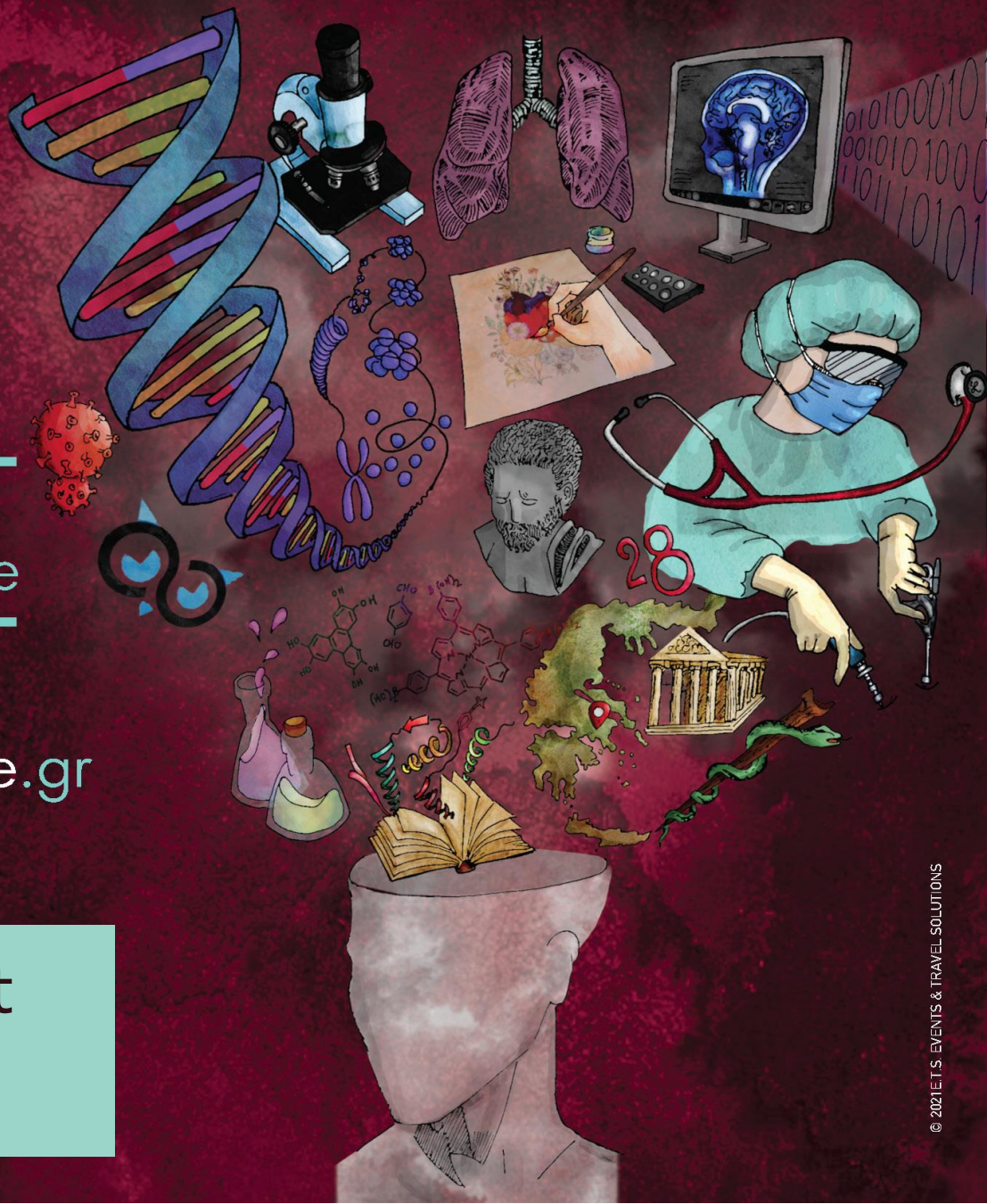

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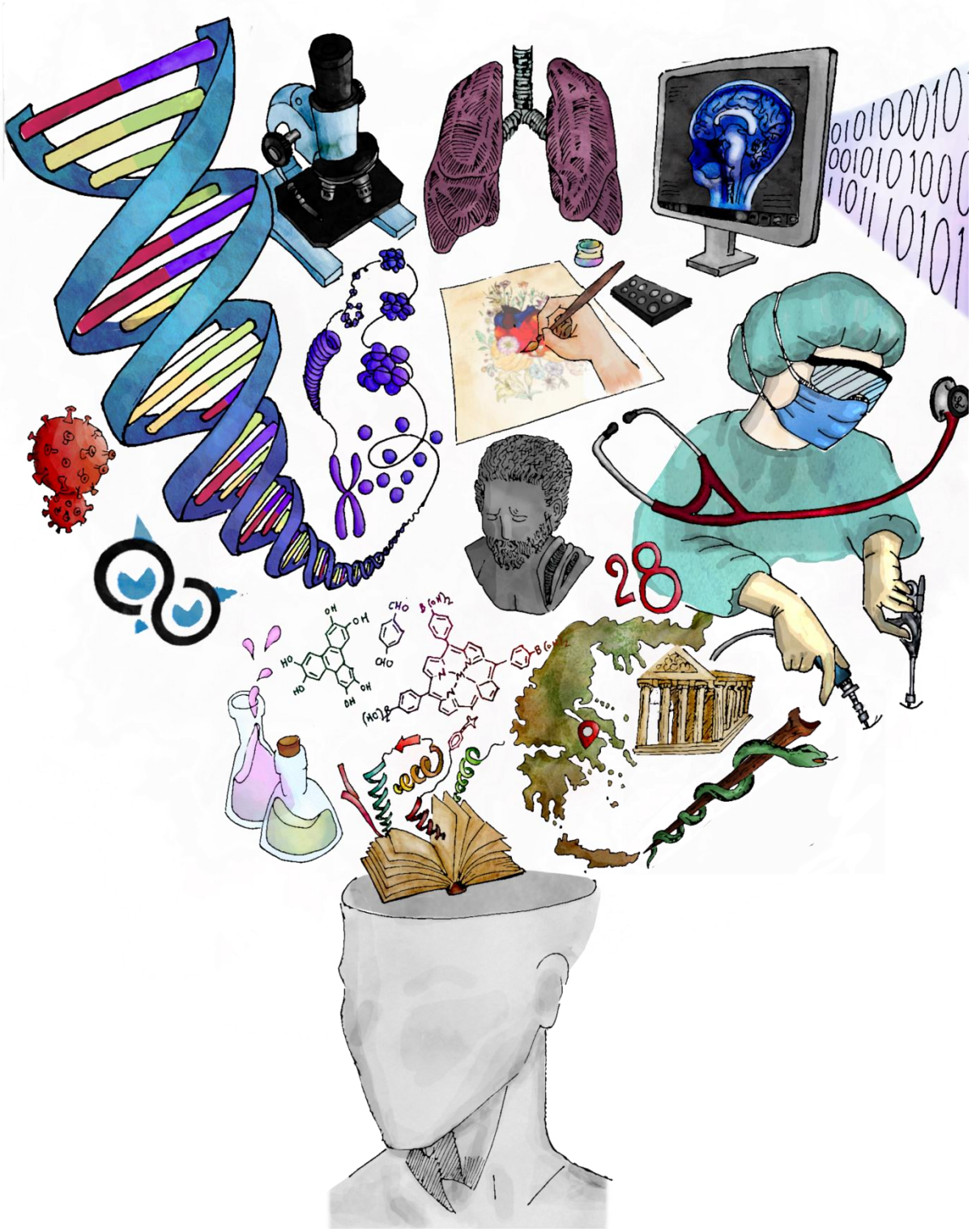
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28th Scientific Congress
Of Hellenic Medical Students
&
16th International Forum for Medical Students
And Junior Doctors

13-15 May 2022
Crowne Plaza Hotel, Athens

Honourable delegates,

The 28th Scientific Congress of Hellenic Medical Students has come to an end. With more than 2300 registrations, more than 500 members in the Scientific Committee and more than 90 members in the Organising Committee, who worked really hard for an entire year, we got to meet again in person in our annual "feast", to exchange ideas, to learn new things, to make new acquaintances and most of all to have fun.

On behalf of the Organising Committee of the ***28th Scientific Congress of Hellenic Medical Students & 16th International Forum of Medical Students and Junior Doctors*** we would like to thank you for your participation and congratulate all those who presented their projects either participating in a Round Table or in an Oral Presentation Session.

This year *117 Round Tables, 131 Oral Presentations and 27 E-posters were presented in Greek and 20 and 17 respectively in English* as a part of the 16th International Forum of Medical Students and Junior Doctors.

In this online book you can find all the **abstracts** of the Presentations that were submitted, evaluated and presented at the Congress.

We really hope that you enjoyed your participation as much as we did and we would like to thank you one more time for your support.

We shall meet again at the *29th Scientific Congress of Hellenic Medical Students & 17th International Forum of Medical Students and Junior Doctors at Alexandroulpoli!*

Yours sincerely,

Panagiota Diamantopoulou,

President of the Organising Committee of the 28th Scientific Congress of Hellenic Medical Students

Marianna Georgiadi,

General Secretary of the 28th Scientific Congress of Hellenic Medical Students

Eftychia Kiousi,

Special Secretary – Programme Team

Ioannis Kapetanios,

President of the Organising Committee of the 16th International Forum of Medical Students and Junior Doctors

Maria-Effrosyni Livanou,

General Secretary of the 16th International Forum of Medical Students and Junior Doctors

Anatomy I

EA 054 WHOLE BRAIN EMULATION, OR HOW ANATOMY FIGHTS MORTALITY…

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Introduction/Background: The fear of death is as old as human nature, stemming from the awareness of existence and its disintegration. Technology and software development companies have recently undertaken an ambitious endeavor to simulate the entire human brain by thoroughly analyzing its structure and connections.

Methods: For this presentation, information was extracted from the PubMed, Google Scholar and Embase databases by searching for the keywords: "whole brain emultation", "wbe", "brain uploading" and "mind uploading", as well as reviewing the printed international bibliography.

Results: This program is based on the theory that the human brain's "behavior" and reactions to various stimuli may be predicted with a high degree of accuracy. To do so, a thorough examination of the microstructure and "microcircuits" of the human brain is necessary, something that has already been accomplished in simpler animals like nematodes. The program's second stage is the creation of a database in which the memories will be "stored," followed by the development of software that will imitate the brain's function and reactions in the future.

Conclusion/Discussion: Death is a part of life too. But whether this part is integral or not is a field of philosophical and moral controversy. "New-generation" Neuroanatomy and the rapid development of computer technology have transferred this controversy to the scientific field. The project of simulating the human brain, and hence the soul, has begun, and the challenges it has to overcome are not merely "technical" and "economical," but primarily bioethical...

EA 082 VARIATIONS OF THE CUTANEOUS INNERVATION OF THE POSTERIOR SURFACE OF THE LOWER LIMB: DISSECTION FINDINGS

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Background: The cutaneous innervation of the posterior surface of the lower limb is given mainly from the posterior femoral cutaneous nerve (PFCN), the medial and lateral sural cutaneous nerves (MSCN and LSCN) and the sural nerve (SN). The PFCN typically originates from the first three roots of the sacral plexus and after

giving the sensory innervation at the lower part of the gluteal area, at perineum and the posterior surface of the thigh, supplies the upper 1/3 of the sural area. The SN is formed by the fusion of the MSCN and LSCN (branches of the tibial and common fibular (peroneal) nerve, respectively and thereafter terminates as lateral dorsal cutaneous nerve of the foot.
The aim of the current study is to describe 3 variant cases of the PFCN and of the SN.

Materials and Methods: Two adult male cadavers of Greek origin (82 and 76 years of age) were dissected. The cadavers were donated to the Department of Anatomy and Surgical Anatomy, of the Medical School of the Aristotle University of Thessaloniki.

Results: 3 variant cases of the PFCN (1 case) and of the SN (2 cases) were identified at the right side of two cadaveric lower limbs. The contralateral limbs were free of any variation.
- 1st case: the PFCN terminated to the calcaneus. No interconnection with other nerve was identified along its course. At the same limb, the MSCN and LSCN had an isolated course. The MSCN terminated as lateral dorsal cutaneous nerve of the foot.
- 2nd case: the MSCN was formed after the tibial and common fibular nerve interconnection.

Conclusions: No emphasis is given on cutaneous innervation of the human body, however the in-depth knowledge of the distribution of the sensory nerves is of great clinical significance. Although neuropathy of the PFCN is rarely described, the SN is often used as a nerve graft and is prone to injury, particularly during surgery.

EA 123 FUSION OF C2-C3 CERVICAL VERTEBRAE. DESCRIPTION OF THREE CASES AND THEIR CLINICAL SIGNIFICANCE

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Introduction: Congenital anomalies of the occipital region may result in severe pain in the neck area and sometimes in sudden death.
The current study highlights cases, in which the C2 (axis) was fused with C3 vertebra. In this case, the vertebral bodies and arches were completely fused. This anomaly is better characterized with the term “block vertebrae” or vertebral complex”.

Materials/Methods: Three characteristic rare cases of C2-C3 fusion were identified from the osseous collection of our department. The fused vertebrae (block) have embryological significance and clinical implications.

Results: C2-C3 fusion has a quite low frequency ranging from 0.4% to 0.7%. The location of the fusion (vertebral level) in order of frequency is (C2-3, C5-6), in the lumbar spine (L4-5) and in the thoracic spine (T).

Discussion: Long-term congenital or acquired fusion of the upper cervical vertebrae can lead to tension and loosening of the ligaments between occiput and atlas, resulting in excessive movement and brainstem compression.

EA 102 SUMMARY OF THE ANATOMICAL VARIANTS OF THE TRIGEMINAL NERVE AND ITS CLINICAL IMPLICATIONS

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Introduction: The trigeminal nerve is a mixed nerve. It emerges from the front surface of the pons, consisting of the thick sensory root and the finer motor root. It is the largest cranial nerve and is extensively distributed in the supra hyoid neck.

Methods: For this presentation, information was extracted from the PubMed, Google Scholar and Embase databases by searching for the keywords: ""trigeminal nerve anatomy", "causes of trigeminal neuralgia", "fifth cranial nerve anatomy" and "trigeminal nerve anatomical variations".

Results: There have been various anatomical variations of the trigeminal nerve in the literature. The most significant ones are those concerning the existence of communications between the trigeminal nerve and other nerves especially the facial nerve. There has also been reported a case of a compressing fibrous ring around the nerve as well as complete absence of the trigeminal nerve.

Conclusion/Discussion: The trigeminal nerve is the bigger and one of the most significant cranial nerves. Anatomical variations of the trigeminal nerve or of the anatomical structures in close relation to the nerve may result in trigeminal neuralgia. Deep knowledge of the trigeminal nerve anatomy and its variations is important both for a general physician and a dentist.

EA 077 ACCESSORY BRACHIORADIALIS MUSCLE. CASE REPORT WITH CLINICAL SIGNIFICANCE

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Introduction: The brachioradialis muscle (BRM) belongs to the radial group muscles of the forearm. It originates from the lateral supracondylar ridge and the anterior surface of the lateral intermuscular septum of the arm and inserts into the lateral surface of the base of the styloid process of the radius and is innervated by the radial nerve. Variations in its origin are rare, as well as its absence. Atypical insertions of the muscle include multiple tendon bundles that insert into the styloid process of the radius, some of which may fuse into the forearm fascia. BRM is often innervated by multiple branches of the radial nerve.
The purpose of the case presentation is the description of an accessory BRM, its fusion with an adjacent muscle of the volar compartment of the forearm and its typical insertion after joining the BRM tendon.

Material and methods: A dissection was performed at the right upper extremity of a 72-year-old Greek male cadaver. The subject was donated his body to the Department of Anatomy and Surgical Anatomy of the Medical School of the Aristotle University of Thessaloniki, after a written informed consent.

Results: At the right forearm, the accessory muscle was identified, originating from the medial border of the typical BRM. The atypical muscle was attached to the pronator terres and was innervated by the radial nerve.

Conclusions: BRM variation, its fusion with adjacent muscles and its numerous muscular branches should be taken into consideration in clinical practice, especially when attempting to transfer the muscle's tendon. The detailed knowledge of the distribution of the muscular branches in relation to the lateral epicondyle and the elbow fossa is necessary in order to maintain their integrity.

EA 079 HIGH ORIGIN OF THE RIGHT TESTICULAR ARTERY FROM THE RENAL ARTERY. A CASE REPORT WITH SURGICAL SIGNIFICANCE

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Background: Testicular arteries (TAs) are paired vessels that usually originate from the abdominal aorta at the level of the 2nd lumbar vertebra. TAs variants are usually identified intraoperatively when reaching the renal pelvis and often lead to complications. TAs variants are extensively described in 31 anatomical studies. A meta-analysis of them detected TAs variants more often at the left (20.73%) than the right side (12.69%). TAs variants are referred to their number, their origin (from the renal artery-RA, the suprarenal artery, or the lumbar artery) and their course. RA bilateral duplication is described in 10% of the cases and gender and racial diversity is found.
The aim of the current case report is to describe in detail the atypical high origin of a right-sided TA from the RA.

Materials and methods: The cadaver of a Greek body donor of 76 years of age was dissected.

Results: the right-sided TA originated (from a high position) from the ipsilateral RA. A bilateral RA duplication coexisted. The branching pattern of the main and accessory Ras is described, bilaterally.

Conclusions: Detailed knowledge of the variable origins of the TAs is important for urologists, kidney transplant surgeons, radiologists and minimally invasive surgeons who perform various surgical approaches and techniques to avoid intraoperative complications. In addition, taking into consideration the possibility of existence of accessory renal vessels is important for the management of renal stenosis, vascular renal hypertension, and various other urological accesses.

EA 128 STERNUM AND XIPHOID PROCESS VARIANTS: A SYSTEMATIC REVIEW OF THE LITERATURE WITH EMPHASIS ON THE CLINICAL SIGNIFICANCE

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Background: In recent years, an increase in cases of secondary variants of the sternum, has been recorded, which cannot always be detected by the usual chest imaging. Timely identification of these congenital anomalies is of paramount importance in preventing complications, such as aspiration of the bone marrow.

Purpose: The purpose of the current systematic study is to record the published anatomical variants of the sternum and xiphoid process and investigate their clinical implications.

Materials and methods: The study is based on the methodology of the systematic review of the literature (keywords and inclusion and exclusion criteria)

Results: The findings of the systematic literature review showed that the sternum and xiphoid process variants are a common characteristic among individuals. A variability exists among the populations, as well as among subjects of the same population. Regarding the age and the gender and their impact on these variants, the findings are contradicting up to a degree. The variants that seem to appear more frequently are the suprasternal bones, the sternal cleft, the sternal foramen, and variations in the xiphoid process end (absent, single, double and triple).

Conclusion: The majority of the included studies underline the importance of clinical awareness on sternum and the xiphoid process variants. Early diagnosis of these characteristics is crucial for achieving a successful treatment and for avoiding any unnecessary injury.

Anatomy II

EA106 VILEMIN'S ARCADE.ANASTOMOSIS OF THE INFERIOR AND SUPERIOR MESENTERIC ARTERIES.A LITERATURE REVIEW

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Introduction: The anastomosis between the inferior and superior mesenteric artery (IMA & SMA) varies concerning the number of anastomotic branches (variant types). There are different names and different locations for this anastomosis, which create a great confusion in inexperienced surgeon. Villemin's arc occurs in 12-18% of the cases. The IMA may give a branch at the cross-point with the inferior mesenteric vein (IMV). This branch runs through the upper part of the vein to join the SMA.
The purpose of the current study is to review the available data literature concerning the presence of intermesenteric anastomosis (IMA-SMA) and the Villemin's arterial arch.

Materials and Methods: A systematic literature review of the studies indexed in PubMed online database was performed. From the identified studies, those that met the inclusion criteria were selected taking into account the titles and abstracts.

Results: Riolan arc, Drummond artery and Villemin arc have been identified and studied in various specimens. Variations are mentioned.

Conclusions: The meticulous knowledge of the IMV variations is of paramount importance to avoid injury during colorectal surgery, especially at the time of ligation of the IMV.

EA 112 A RARE CASE OF INTERCONNECTION (COMMUNICATION) OF THE RADIAL NERVE WITH THE ULNAR NERVE. A CADAVERIC CASE WITH CLINICAL SIGNIFICANCE

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Background: Communications between branches and cords of the brachial plexus have been extensively studied. Whereas sporadic cases concerning the radial and ulnar nerve interconnection (RN–UN).

Purpose: The current case report highlights a rare case of communication between RN and UN.

Materials and methods: A 79-year-old male cadaver was bilaterally dissected at the axilla and arm. The cadaver was donated from the subject before death, after written informed consent.

Results: The RN–UN communication was detected on the left arm. The communicating branch originated from the RN in the axilla and terminated at the UN, at the lower border of the tendon of the latissimus dorsi muscle. The AN typically emanated from the posterior division of the upper trunk.

Conclusions: The study of atypical communications between RN and UN attracts great attention for its clinical importance, mainly in cases of peripheral neuropathies or upper limb nerve injury.

EA 117 ANATOMICAL STUDY OF THE EXOSTOSES OF THE SPINE

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Introduction: Spinal osteophytes are defined as bone protrusions covered by fibrous cartilage in the vertebral bodies, the synovial processes, and intervertebral discs. They develop from the continuous compression of the vertebral bodies and the corresponding intervertebral discs. Their presence causes spinal nerves' compression and a restriction of the movement of the joint.
In the present study, the classification of osteophytes in different groups according to their morphological characteristics and their location in the different positions of each vertebra, as well as in the different degrees of the spine will be sought.

Methods-Data: The presence of osteophytes, their exact location, their morphology in dried spines of Greek adults was studied. The osseous material belonged to body donors who offered their body after written informed consent.

Results/Summary - Discussion: The number of osteophytes increases with the age and particularly in the age group over 50 years. Gender and especially menopausal women, the curvatures of the spine (the most marked), the index of the spine as a whole and in degrees, the density and consequently the degree of the vertebrae calcification, the decrease or increase of the number of vertebrae of different degrees of the spine, the mechanical action of the muscles at their areas of attachment or other factors may contribute to the development of osteophytes.

EA 114 MORPHOLOGICAL STUDY OF THE ORBITAL WALL FORAMINA. VARIATIONS IN NUMBER AND LOCATION

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Introduction: The zygomatic bone shows variations in the number of foramina in both the facial area and the eye socket. The aim of the current study is to emphasize the importance of the variants of the foramina observed in the lateral orbital wall in relation to the gender and the age.

Method: 118 (80 male and 38 female) dried adult Greek skulls were studied on both sides (236 observations) to identify differences in the number of foramina.

Results: The zygomaticofacial foramen is often identified as a single foramen unilaterally. The same is true for the zygomaticotemporal foramen. The zygomaticotemporal foramen usually is absent. The zygomatic nerve may be injured in periorbital approaches (lateral orbitotomy) during resection of intraorbital tumors, when they involve soft tissue.

Conclusions: The detailed knowledge of morphometry is useful for the surgeon who will perform maxillofacial surgery and nerve block in the area. The orbital variants are common, and the surgeon should always consider them in order to increase the success rates of surgery.

EA 068 THE CLINICAL APPLICATION OF WIDEFIELD IMAGING IN RETINAL AND CHOROIDAL DISEASES

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Introduction: The retinal periphery is a site of numerous ocular pathologies, including diabetic retinopathy, retinal vein occlusion, uveitis and ocular tumors. It is common retinal pathologies to emerge at the periphery, thus, there is a significant prognostic and diagnostic correlation of these findings with the advancement of the course of an ocular pathology. The development of ultra-widefield (UWF) retinal imaging can detect peripheral lesions on the retina, rendering it as an inextricable tool for the prognosis, diagnosis and treatment of these pathologies.

Methods: Data was downloaded through a bibliographic search in the medical data bases, such as PubMed and Elsevier. Key-words used while searching: Ultra-widefield, Autofluorescence, Retinal disease, Choroidal disease, Ocular tumors, Optos, Heidelberg Spectralis, RetCam 3, Clarus 500, Phoenix Icon, Panoret-1000. The searching was accomplished following these criteria: articles written in English and published after 2015.

Results: UWF imaging is a recently developed noninvasive retinal imaging technology with a broad imaging range that can detect peripheral fundus lesions that traditional fundus autofluorescence cannot. Multiple commercially available ultra-widefield imaging systems, including Heidelberg Spectralis and Optomap Ultra-Widefield systems, are available to the clinician these days. Wide-field imaging plays an important role in retinal pathologies for concerning the initial documentation, the surgical planning, and monitoring of the lesion for recurrence.

Discussion: UWF is able to detect abnormalities that traditional fundus autofluorescence cannot. As a consequence, it can be used to clarify disease pathogenesis, analyze correlations, diagnose and monitor the disease.

EA 069 THE LETHAL POWER OF PENS

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Introduction: Firearms and wound ballistics constitute a big, thoroughly studied chapter of Forensic Medicine. Handmade firearms are of special interest as they may cause confusion due to their rare appearance in day to day casework and international literature and also because of their vast variety. In this project we will present, for the first time in Greece, two lethal cases where “pen-guns” were used.

Methods: For the purposes of this study, the physical archives of the Forensic Medicine Unit of the University Hospital of Crete were accessed for the years 1990-2021. Two suicide cases were discovered that involved handmade firearms, more specifically pen-guns. A literature search was also performed using PubMed for recorded similar cases.

Results: The cases under study both involved adult males that committed suicide with the use of pen-guns, which were in both instances found and recovered from the death scene. The entrance wounds were located on the right temporal areas and showed similar gross characteristics, compatible with contact range wounds. Both gunshot wounds were blind. On one of the cases, a post mortem CT scan was performed and revealed the presence of the bullet inside the cranial cavity. The trajectories of the bullets were also comparable, suggesting a direction from front, right and upwards to back, left and downwards, that resulted in extensive craniocerebral injuries.

Conclusion / Discussion: Despite their short range of fire in comparison to typical, short-barreled firearms, pen-guns exhibit the same lethal potential. At the same time, their easy use and concealment, in addition to their simple mechanism and manufacturing, render them even more dangerous, while a high level of suspicion is needed for their identification.

EA 042 PERFECTING AESTHETIC RESULTS IN ABDOMINOPLASTY: THE GREEK LINE TECHNIQUE

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Introduction/Background: The Greek sculptors of the classical era 400 B.C. were the first to add the characteristic abdominal groove to their statues introducing and popularizing the perfect body shape. We are proposing the term “Greek Line” to demonstrate a novel and safe technique to achieve that exact feature in abdominoplasties.

Methods: Technique: First we mark the midline of the abdomen and the area 2 cm bilateral of the midline. We begin the abdominoplasty as normally and when the dissection reaches the level of the umbilicus, we perform radiofrequency assisted liposuction (RFAL). Superficially and deeply to this central area. If the thickness of the abdominal flap is more than 2 cm we also perform liposuction with cannula No 3, if it less than 2 cm we don't need to do any liposuction. We continue the dissection of the flap above the umbilicus. Before the closure we introduce 4-6 stitches PDS 2/0 between the abdominal flap in the midline and the abdominal wall in Linea alba. These stitches are under tension and are pulling the flap downward. The "Greek Line" has been already formed. Patients: From May 2010 to November 2021 we performed the "Greek Line" technique in 375 patients. Mean age of patients was 42 years old. Mean follow up was 6 years. 215 patients were smokers.

Results: In all patients the Greek Line was obvious after the operation. At the 6 years mean follow up the results were stable. Patients were very satisfied with the results. We didn't have any problems with vascularity of the flap.

Conclusion/Discussion: The "Greek line" technique is an easily performed and safe technique which can be applied in every patient (smoker or not).

Angio-, Cardio-, Neurosurgery

EA 011 INCIDENCE AND ENDOVASCULAR TREATMENT OF SEVERE SPONTANEOUS NON-CELEBRAL BLEEDING: A SINGLE-INSTITUTION EXPERIENCE

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Introduction/Background: To investigate the incidence and endovascular treatment of severe spontaneous non-cerebral hemorrhage (SSNCH) in a high-volume, tertiary university hospital.

Methods: All patients diagnosed with SSNCH between January 2016 and June 2017 were retrospectively analyzed. Endovascular treatment (group EVT) was offered only in patients demonstrating active bleeding at CT angiography (CTA). In cases without active bleeding at CTA, conservative management was decided (group CM). Outcome measures included the incidence of SSNCH, 6-month rebleeding, and survival rates in the two groups as well as EVT technical success and related complications.

Results: Within the 18-month period, 44 SSNCH cases were identified, resulting in an annual incidence of 29.3 cases. In 37/44 cases (84.1%), bleeding was attributed to the antithrombotic therapy. In total, 19/44 patients underwent EVT (43.2%), and 25/44 patients (56.8%) were managed conservatively. Two patients who were initially treated conservatively finally underwent EVT due to rebleeding (7.4%). The technical success of EVT was 100%, while rebleeding occurred in 1 case (5.2%) following lumbar artery embolization and was successfully re-embolized. According to the Kaplan-Meier analysis, the 1-, 3-, and 6-month survival rates were 68.4%, 63.2%, and 42.1% for group EVT and 87.5%, 75.0%, and 58.3% for group CM, respectively. There were no EVT-related complications.

Conclusion/Discussion*:* The annual incidence of SSNCH in our institution is substantial. EVT resulted in uncomplicated, high bleeding control rates. The mortality rate was similarly high following either EVT or conservative treatment and was mainly attributed to severe comorbidities.

EA 037 OUR EXPERIENCE IN MANAGING OF CAROTID BODY TUMOR

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Introduction: Carotid Body Tumor (CBT) is a rare lesion of the neuroendocrine system but it is the most common form of head and neck paraganglioma (PGL). Our objective is to discuss the optimal management of these lesions to provide the best outcome of patients treated by surgical resection.

Methods: 15 patients ,28 -77 years old (3 females- 12 males), presented with carotid body tumor during the period between 1998 and 2019. All patients were asymptomatic. Among them, two young patients were presented with mass in the neck and during the clinical examination we suspected the disease. The rest of them were diagnosed during routine examination and the performance of triplex, CT angiography or IA DSA confirmed the diagnosis. In one young female patient, the tumor included the external carotid artery while in the others, did not affect the vessels.

Results: After preoperative evaluation of the tumor, a total of 10 Carotid Body Resections were performed, on 10 patients. Five didn't accept surgical treatment. In one female patient the tumor affected the external Carotid so we forced to resect the artery with the mass. There were no operative deaths. No complications occurred intra or postoperatively as well as no neurologic deficits were noticed. The patients remain asymptomatic during the follow up period.

Conclusion-Discussion: Surgical removal of the tumor is the only treatment that can ensure a complete eradication of the disease. Family screening is of great importance in patients with hereditary forms. Careful preoperative planning of surgical procedure by integrated diagnostic imaging and a full mastery of the surgical technique can minimize the risk of the most common postoperative complications. Lifelong follow-up is mandatory to make early diagnosis of recurrent disease.

EA 124 SYNDROME OF THORACIC OUTLET: CASE DESCRIPTION WITH SUBCLAVIAN ARTERY COMPRESSION BY A HYPERTROPHIC ANTERIOR SCALENE MUSCLE

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Introduction: Thoracic outlet syndrome (TOS) has been studied extensively and subcategorized into at least four related syndromes: 1. neurogenic TOS due to brachial plexus compression, 2. arterial TOS in cases of subclavian artery (SA) compression, 3. venous TOS due to subclavian vein (SV) compression, and 4. nonspecific type of TOS with unclear etiology. Presence of cervical ribs, 1st rib anomalies, cervical muscle hypertrophy, repetitive motion, and posture issues are possible etiologies of compression.

Purpose: The current case aims to highlight an arterial TOS due to a hypertrophic anterior scalene muscle.

Materials and Methods: A hypertrophic anterior scalene muscle was identified in the right infraclavicular area of a Greek male cadaver (70 years of age).

Results: The right SA passed in between the anterior scalene muscle belly and some deeply situated fibers extended posterior to the SA. The anterior scalene muscle compressed on the right SA against the superior part of the first rib. The arterial type of TOS comprises about 1% of all TOS cases. The patient usually complains for hand pain due to the aneurismal part of the compressed SA.

Conclusion: Knowledge of such variations may be important in the diagnosis of upper limb muscle atrophy or neurosensory loss.

EA 130 AORTIC VALVE REPLACEMENT: QUALITY OF LIFE OF PATIENTS

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Introduction: Surgical replacement of the aortic valve is performed through the placement of an artificial valve. Of course, although surgery is the gold standard even today, its transdermal replacement is gaining ground. The purpose of this paper is to highlight the quality of life of individuals after the aortic valve replacement procedure.

Method: This work took 3 months to review the literature from the following sources: Pubmed and NIHSS.

Results: Systematic reviews as well as clinical trials and retrospective studies based on QUALIS questionnaires were studied. Based on 2 standardized scales, an improvement in the quality of life is highlighted. These included both open surgical accesses and TAVI. Also the age range was expanded. Finally, there is no reduction in the quality of life of people of the same age with valve replacement, compared to people without aortic valve problems.

Conclusion Aortic valve replacement offers a significant improvement in quality of life and is recommended as long as there are no serious contraindication.s

EA 098 SURGICAL CLIPPING FOR PREVIOUSLY EMBOLIZED RECANALIZED BRAIN ANEYRYSMS. A SINGLE CENTER EXPERIENCE IN WESTERN GREECE

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Introduction: Endovascular treatment of intracranial aneurysms (IAs) provides less invasiveness and lower morbidity when compared to microsurgical clipping. Notwithstanding the fact that coiling has become the default treatment option for IAs, data has shown that the long term recurrence rate varies from 15 to 34%. Our study presents our single-center experience in surgical clipping of recurrent previously coiled aneurysms.

Methods: Retrospective analysis of 6 patients' data and final clinical/angiographic outcome, who underwent surgical clipping of IAs following initial endovascular treatment, during the last decade has been performed.

Results: Four male and two female patients with previously embolized intracranial aneurysms were additionally treated by surgical clipping and were included in our study. Four patients suffered from

subarachnoid hemorrhage before embolization whereas two patients presented with unruptured aneurysms. Indications for surgical clipping included aneurysm recanalization, regrowth or residual neck. Time interval between initial coiling and additional surgical intervention ranged from 0 to 19 months. Postoperatively, all the patients had none or minimal neurological symptoms with mRS score <2.

Conclusion/Discussion: Surgical clipping seems to be a feasible and safe technique that may be applied additionally in selected cases of previously coiled intracranial aneurysms with recanalization, regrowth and adequate residual neck.

EA 002 STEREOTACTIC BRAIN BIOPSIES. THE EXPERIENCE OF OUR CLINIC

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Introduction/Background: Stereotactic biopsies with or without frame are a method for the diagnosis of intracranial lesions. In this method, the patient undergoes preoperative imaging (MRI, CT) and the image is inserted into a neuronavigation system which guides the surgeon in obtaining the biopsy material using a needle. This study aims to present the effectiveness and complications in patients who underwent stereotactic brain biopsy at the University Hospital of Ioannina.

Methods: A retrospective search of the stereotactic biopsies performed in the last 3 years was performed. Preoperative imaging data, intraoperative findings and possible postoperative complications were recorded. Intraoperative pathological findings were correlated with intraoperative flow cytometry.

Results: In the study were included 9 patients (4 women, 5 men) who underwent frameless stereotactic biopsy. The mean age of the patients was 63.3 years (width 47-73). In the imaging control, four patients presented lesions that infiltrated the corpus callosum "like a butterfly", two patients presented with lesions in the area of the striatum. Also, 2 patients presented with multiple lesions and one with diffuse pathological imaging morphology. In 4 cases the diagnosis was glioblastoma, one patient was diagnosed with metastasis, one with anaplastic astrocytoma, one with diffuse astrocytoma and one with B- lymphoma. Finally, no neoplastic lesion was identified in one patient. Postoperatively one patient presented with a small intracerebral hemorrhage which was treated conservatively. Intraoperative flow cytometry was performed in 5 cases and the results were in accordance with those of the pathological assessment.

Conclusion/Discussion: Frameless stereotactic biopsies seem to be a safe method for the diagnosis of intracranial lesions, which helps in the subsequent treatment of the patient, as a small percentage of complications occurred.

EA 072 THE EMERGING ROLE OF IMMUNOVIROTHERAPY IN GLIOBLASTOMA TREATMENT

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Introduction: Glioblastoma (GBM: grade IV glioma WHO) is the most common primary CNS malignancy in adults, originated from astrocytes. It has a poor prognosis reaching a median survival of 18 months with proper treatment and 4 months with palliative care1. Despite the advances in molecular treatments at least experimentally, the main therapeutic modality employed remains the surgical excision of the tumor, followed by radiation and temozolomide-based adjunctive chemotherapy2. Current research has seen a boost in the study of oncolytic viruses (OV) for the treatment of a wide range of tumors, including GBM.

Methods: We reviewed the international literature via PubMed, using the following keywords: ((GBM) OR (glioblastoma)) AND ((oncolytic viruses) OR (immunovirotherapy)).

Results: The concept of virotherapy first appears in 1912 by De Pace, describing the remission of a cervical Ca after immunization with Pasteur's vaccine for rabies2,3. Modern immunoviral therapy can be classified into the use of self-replicating viruses (oncolytic viruses) or non-replicating viral vectors2. Viruses from ten different families (Adenoviridae, Herpesviridae, Paramyxoviridae, Reoviridae, Retroviridae, Picornaviridae, Parvoviridae, Poxviridae, Rhabdoviridae, Alphaviruses) have been utilized as oncolytic viral platforms3,4. Oncolytic viruses can selectively target and replicate in cancer cells, while also triggering an immune response against the tumor cells5. Their tumor oncolytic action is either inherent or acquired through gene-editing4. Recently developed armed-viruses carry genes encoding anti-tumor proteins, such as interleukins (IL-12, IL-4 και IL-15), TRAIL, immune checkpoint inhibitors (anti-PD1 Abs), immune- enhancing stimulators (OX40L and GM-CSF), tumor suppressors (PTEN and p53), antiangiogenetic factors, E-cadherin and Flt3L, that seem to influence several molecular pathways affecting oncogenesis that disturb glioblastoma progression5,6.

Conclusion: Recent advances pave the way for the use of OVs as a promising therapeutic tool. Immunoviral therapy with immunomodulatory transgenes has led to beneficial outcomes, while their synergistical action with other targeting therapies and stem cells seems to be feasible5.
Although immunoviral therapy has been extensively tested in preclinical and clinical trials and the results has proven to be promising, still occuring questions and challenges require further research.

Cardiology I

EA 095 THE IMPACT OF INFECTIONS ON THE OUTCOME OF PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Introduction: The main purpose of the study was to investigate the impact of a systematic infection on the in-hospital mortality of patients with acute myocardial infarction (MI).

Methods: We retrospectively studied the medical records of patients admitted (from the 1st Cardiology Department) to the Cardiology ICU of the University General Hospital of Ioannina, during August-November 2021. All patients were diagnosed with acute MI using diagnostic criteria of prolonged (>30min) angina pain, electrocardiographic changes (ST segment elevation or depression) and serum troponin values greater than the threefold laboratory ceiling. We recorded the appearance of systematic infection, using fever, leukocytosis and increased CRP as the diagnostic criteria. Furthermore, we registered the values of D-dimers, creatinine, liver enzymes and INR. Finally, we classified the patients according to the diagnosis of infection during or after the first 24 hours of admission. In order to compare the qualitative characteristics, the statistical test chi-square was used, while for quantitative characteristics the t-test was used. Statistical significance was considered at $p<0,05$ level.

Results: 37 patients were introduced in the study (XX males) (XX+-YY years of age). 15 of them (40%) (XX males, XX+- years of age) were diagnosed with a hospital-acquired infection, either in the first hospital day (8 patients) or later (7 patients). The survival rate of the patients with uncomplicated acute MI was 95%, against the 73% of the patients with an infection, a result that lays on the verge of statistical significance (p-value=0.053). The survival rate of the patients diagnosed with infection in their first hospital day was better. CRP, d-dimers, neutrophil white blood cells, creatinine, liver enzymes and INR values differentiated between the two groups.

Conclusion/Discussion: The impact of hospital-acquired infections in patients with acute MI appears significantly high and increases the mortality rate. An early diagnosis and treatment improves the patients' survival.

EA 105 MYOCARDIAL ISCHEMIC PRECONDITIONING: A UNIVERSAL PHENOMENON OF WIDE CLINICAL APPLICATION

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Introduction: Ischemic preconditioning is an experimental technique, which refers to the application in low intensity and duration of a stimulus/stress that protects from a subsequent stronger and longer application which would otherwise be destructive.

Methods/Data: After a systematic review of a variety of sources, the information was obtained mainly from the online platform PubMed, from the books of Professor Cokkinos Dionysios «Myocardial Preservation» and «Myocardial ischemia». Combinations of phrases such as «ischemic preconditioning», «reperfusion injury», «Preconditioning with ischemia» have been used and the most recent and relevant publications were selected and information was collected about Myocardial ischemic preconditioning.

Results: Our study revealed that Myocardial ischemic preconditioning describes a universal phenomenon that induces adaptive endogenous tolerance to further ischemia/ reperfusion injury in all vital organs, including the heart by activating a cascade of hormonal and inflammatory/anti-inflammatory mediators and neuronal signaling paths. There are a number of ways in which preconditioning can be induced. The two main methods are local and remote ischemic preconditioning. Local preconditioning refers to a stimulus applied to the same organ or tissue that will subsequently sustain the severe ischemia. On the contrary, remote ischemic preconditioning is a systemic strategy in which the stimulus is applied to an organ or tissue in order to protect against subsequent more severe ischemia in the distant target organ or tissue. It is worth noting that ischemic preconditioning is classified in two types: early and late. In early (classic) the protection appears within 5 min and is lost after 1-2 hours, while in the late one it reappears after 24 to 72 hours in a weaker form.

Conclusion/Discussion: Ischemic preconditioning has been applied in exercise angina, cardiac surgery, angioplasty, heart transplantation and cardiopulmonary resuscitation and presents a cardioprotective mechanism. Although initial clinical trials focused on the application of remote ischemic preconditioning in ischemic cardiac disease, interest has broadened to other areas including stroke, renal injury and general surgery. It must be admitted that the clinical results are still not very widely successful.

EA 107 A REGISTRATION STUDY AND COMPARISON OF HYPERTENSIVE AND OVERWEIGHT PATIENTS WITH HEART FAILURE SYMPTOMS

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Introduction: Dyspnoea on exertion and exercise intolerance are the main symptoms of heart failure (HF), but can also be caused by several other diseases. The aim of this study was to compare groups of patients without HF, who have however cardiovascular risk factors and present with exertional dyspnea or reduced exercise capacity.

Materials and Methods: A group of overweight (BMI>30.00kg/m2, n=11) and a group of hypertensive individuals under treatment (n=14) were studied. All patients were asked their medical history, underwent physical examination and laboratory exams, a 6-Minute-Walking-Distance (6MWD) test to objectify exercise intolerance, and an echocardiogram and serum NT-proBNP to exclude HF. Furthermore, they rated their quality of life with the EQ5D-5L questionnaire.

Results: Compared to overweight, hypertensive patients were older (median age 66 vs 44 years, p=0.006) and suffered in a statistically significant percentage of dyslipidemia, for which they were prescribed of statin (78.5% vs 18.2%, p=0.005). There was a statistically significant difference in BMI (29.3 vs 34.2, p=0.002) and transmitral flow velocity ratio (E/A 0.8, vs 1.0 respectively, p=0.035), which consists one of the diastolic dysfunction criteria. Hypertensive patients reported worse quality of life (score: 70% vs 85%, p=0.015). No statistically significant differences were found in: systolic BP (SBP, p=0.085), 6MWD (p=0.183), LDL (p=0.082), and NT-proBNP (p=0.066), as expected in patients without HF.

Conclusions: Two groups of patients with similar symptoms of HF, but with a different disease (hypertension vs obesity) were studied. No differences in exercise tolerance (tested by 6MWD) and NT-proBNP (HF biomarker) were found. Hypertensive patients were older, suffered from dyslipidemia and diastolic dysfunction more frequently and valued their lives with less satisfaction (questionnaire EQ5D-5L). Parameters like SBP, LDL, left atrial volume and left ventricular wall thickness did not differ significantly, probably because of a larger sample required to prove correlation.

EA 121 THE VALUE OF PRIMARY PREVENTION IN CONTROLLING ARTERIAL HYPERTENSION AND OTHER CARDIOVASCULAR RISK FACTORS

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Introduction: Arterial hypertension (HTN) is a major cardiovascular risk factor. The role of primary prevention in controlling blood pressure (BP) and other risk factors is of great significance. The purpose of this study was to observe modifications in the cardiovascular profile of hypertensive patients, after several lifestyle recommendations and pharmaceutical interventions, in a short time interval of one month.

Methods: A group of 14 individuals with HTN and dyspnoea on exertion or exercise intolerance was studied. All patients were asked their medical history, underwent physical examination and laboratory exams, a 6-Minute-Walking-Distance (6MWD) test to objectify exercise intolerance, and an echocardiogram and serum NT-proBNP to exclude heart failure. Furthermore, they rated their quality of life with the EQ5D-5L questionnaire. Lifestyle changes and pharmaceutical interventions were made to manage the risk factors, and patients were reevaluated in four weeks.

Results: Statistically significant reduction of BP (systolic BP baseline vs follow-up 156 vs 135mmHg, p=0.001; diastolic BP 84 vs 79mmHg, p=0.048), reduction of LDL cholesterol (110 vs 80mg/dl, p=0.019) and increase of 6MWD was noticed (from 476m to 527m, p=0.019). BMI was reduced (from 29.3 to 29.1kg/m2), while renal function was improved (eGFR: from 74.9 to 79.3ml/min). The reported quality of life did not change in absolute values, however the limits showed an upward trend (from 70% [64-73] to 70% [68-83], p=0.190).

Conclusions: The value of primary prevention in controlling arterial hypertension and other cardiovascular risk factors may be significant, even in a short period of time. Simple lifestyle and pharmaceutical interventions improved patients' cardiovascular profile without undermining their quality of life. A larger sample or a longer observation period is expected to point out a greater effect of such interventions in these patients.

ORAL PRESENTATIONS IN GREEK

EA 031 CONTRIBUTION OF CARDIOGENETICS TOWARDS THE PREVENTION OF SUDDEN CARDIAC DEATH

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Introduction: Sudden cardiac death (SCD) accounts for 380.000 deaths/year in Europe, 9.000 affecting young and athletes. Most cases are attributed to genetic predisposing conditions for arrhythmogenic SCD. The aim of this review is to determine the current genetic knowledge and analyze its contribution for preventing SCD.1

Methods: A search for systematic reviews published between 2017-2022, that investigated the SCD in combination with cardiogenetics., was conducted in PubMed, MEDLINE, EMBASE databases

Results: The early detection of high-risk patients is fundamental both for acquired cardiac diseases, such as coronary artery disease (CAD), and hereditary arrhythmic syndromes, such as Long QT Syndrome.2 Genetics may play a role in both situations, although the potential to exploit this information to reduce the burden of SCD varies between these two groups. There is a correlation between the presence of genetic polymorphisms and occurrence of SCD in both the general and CAD population.3 Genetic susceptibility to SCD is determined by common SNPs identified either through targeted genes studies, known to predispose to SCD or through Genome-Wide Association Study. However, individual SNPs associated with SCD have low prognostic value.4 Therefore, genetic-risk scores based on combination of genome-wide significant variants may represent the best option for predicting SCD risk in acquired conditions. Currently, SCD prevention in the general population mainly focuses on reducing classic cardiovascular risk factors, such as dyslipidemia.3 In the field of inherited arrhythmia syndromes, genetic testing is useful for diagnosis, risk stratification and therapeutic management of the diseases. Genetic screening can also help to identify affected family members, particularly “silent carriers”, and provides simple preventive measures even in the preclinical phase.2

Conclusion-Discussion: Utilization of genetic testing in the general population is not recommended because of high cost and the lack of data concerning its interpretation.5 Polycentric genetic studies in SCD cases will contribute towards that direction.3

EA 078 IMPACT OF COVID-19 PANDEMIC ON MECHANICAL REPERFUSION FOR PATIENTS WITH STEMI

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Background: The fear of contagion during the coronavirus disease-2019 (COVID-19) pandemic may have potentially refrained patients with ST-segment elevation myocardial infarction (STEMI) from accessing the emergency system, with subsequent impact on mortality.

Objectives: The ISACS-STEMI COVID-19 registry aims to estimate the true impact of the COVID-19 pandemic on the treatment and outcome of patients with STEMI treated by primary percutaneous coronary intervention (PPCI), with identification of "at-risk" patient cohorts for failure to present or delays to treatment.

Methods: This retrospective registry was performed in European high-volume PPCI centers and assessed patients with STEMI treated with PPPCI in March/April 2019 and 2020. Main outcomes are the incidences of PPCI, delayed treatment, and in-hospital mortality.

Results: A total of 6,609 patients underwent PPCI in 77 centers, located in 18 countries. In 2020, during the pandemic, there was a significant reduction in PPCI as compared with 2019 (incidence rate ratio: 0.811; 95% confidence interval: 0.78 to 0.84; $p < 0.0001$). The heterogeneity among centers was not related to the incidence of death due to COVID-19. A significant interaction was observed for patients with arterial hypertension, who were less frequently admitted in 2020 than in 2019. Furthermore, the pandemic was associated with a significant increase in door-to-balloon and total ischemia times, which may have contributed to the higher mortality during the pandemic.

Conclusions: The COVID-19 pandemic had significant impact on the treatment of patients with STEMI, with a 19% reduction in PPCI procedures, especially among patients suffering from hypertension, and a longer delay to treatment, which may have contributed to the increased mortality during the pandemic. (Primary Angioplasty for STEMI During COVID-19 Pandemic [ISACS-STEMI COVID-19] Registry; NCT04412655).

EA 022 BRAIN-HEART AXIS: PHYSIOLOGY AND CARDIOVASCULAR COMPLICATIONS AFTER TRAUMATIC BRAIN INJURY

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Introduction: Brain and heart-two vital organs that interact dynamically and continuously, providing balanced function in the body. The purpose of this study is to describe the normal relationship between these two organs, through the brain-heart axis, underlining the pathophysiological consequences when it malfunctions. An important cause of its dysfunction is the damage of the nervous tissue after a traumatic injury.

Methods-Data: A literature review was carried out between 11/2021 to 01/2022, on international medical databases: PUBMED, JOURNAL OF NEUROSURGERY, Journal of the American College of Cardiology, as well as in classical medical books. The keywords used were: brain-heart axis, neurogenic stunned myocardium, brain injury troponin levels, brain injury cardiac complications. Literature selection criteria were articles in English, articles published after 2010.

Results: The central nervous system affects the cardiovascular system through direct and indirect mechanisms. The direct effect mainly concerns neurogenic and hormonal pathways. The final purpose of this affection is to achieve homeostasis and adaptation of the body to the continuous internal and external requirements. This regulates heart rate, myocardial contractility, blood pressure, and other related variables. Activation of the catecholamine release cascade plays an important role in nerve tissue damage. Significant clinical consequences are blood pressure disorders, induced electrocardiographic lesions, myocardial ischemia, and cardiac arrest.

Conclusion-Discussion: Neurocardiogenic syndromes have sparked research interest in recent years which has led to a better understanding of their pathophysiology and their earlier clinical detection. However, major questions continue to arise concerning their exact triggering mechanism, the diagnostic criteria used, and their

appropriate treatment strategies, creating space for future research and various clinical professionals' collaboration.

Cardiology II

EA 057 THE ROLE OF CARDIAC MAGNETIC RESONANCE (CMR) IN DIFFERENTIAL DIAGNOSIS OF ATHLETE'S HEART AND HYPERTROPHIC MYOCARDIOPATHY (HCM) AND ARRHYTHMOGENIC RIGHT VENTRICULAR CARDIOMYOPATHY (ARVC)

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Introduction: Athlete's heart is defined as the total of physiological structural and functional cardiac remodeling changes in athletes. However, these exercise-associated adaptions may overlap those observed in individuals with hereditary or congenital cardiac diseases, which may cause sudden cardiac death during or just after exercise. Using cardiac magnetic resonance (CMR) can contribute to establishing an accurate and early diagnosis in these individuals. This review is aimed at highlighting the role of CMR in distinguishing the physiological adaption in athletes from pathology.

Methods: An extensive research took place on databases, including Pubmed and Scopus until 1/02/2022, using the following keywords: "cardiac magnetic resonance", "athletic heart", "hypertrophic cardiomyopathy", "arrhythmogenic right ventricular cardiomyopathy", "sudden cardiac death". Clinical studies, systematic reviews and metanalyses, as well as literature reviews, that were published in the last decade and were written in English, were included. These studies were investigated for CMR findings in athletes' hearts and HCM, ARVC, as well as the importance of CMR in the differential diagnosis of these diseases and athlete's heart.

Results: To distinguish HCM from physiological adaptions in an athlete's heart, CMR enables us to measure accurately LV wall thickness, define apical and lateral wall hypertrophy, detect fibrosis and increase in the extracellular matrix, using T1 mapping and extracellular volume (ECV) assessment. To investigate individuals at risk for ARVC, CMR provides a detailed assessment of RV structure and function and detects fibrosis and LV involvement. **Conclusion/Discussion:** CMR enables us to evaluate cardiac structural changes in "gray area" cases, especially in athletes' heart with exercise-associated adaptions, that may overlap an underlying pathology. Therefore, the role of imaging in these challenging clinical scenarios is pivotal and complementary to the clinical presentation, family history, 12-lead ECG, and cardiac function. CMR: cardiac magnetic resonance, HCM: Hypertrophic myocardiopathy, ARVC: arrhythmogenic right ventricular cardiomyopathy, ECG: electrocardiograph

EA 081 TREATING HFpEF: AN EVOLVING RACE FOR AN EFFECTIVE THERAPY

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Treatment of heart failure (HF) undoubtedly constitutes a rapidly changing landscape. It is common knowledge that there is substantial progress in treating patients with HF with reduced ejection fraction (HFrEF), while at the same time HF with preserved one (HFpEF) remains an unmet need. In view of the above, we conducted a review of the literature to clarify where we stand today with regards to the existing treatment methods as well as what the future may bring on this topic.

Databases CENTRAL, MEDLINE, Embase, ClinicalTrials.gov and the WHO ICTRP were searched and only phase II and III, double blind, placebo controlled, multicenter randomized clinical trials, both completed and currently active trials, were included in our review.

The two ends of the HF spectrum differ substantially regarding the effects of treatment. HFrEF's main therapy has failed to reduce mortality and hospitalizations in HFpEF patients, although some of them did have some benefit in certain patient subgroups. The only class of medications that demonstrated benefit in HFpEF patients was the category of Sodium-GLucose coTransporter-2 inhibitors, the newly added class in the first line treatment of HFrEF. Trials of pharmacological agents targeting specific aspects of HFpEF pathophysiology have failed to prove benefit in hard endpoints but some of those, such as physical exercise training, led to some improvement in patients' quality of life. In summary, there is no intervention other than SGLT-2 inhibitors that has proven to effectively treat HFpEF. However, some very encouraging results are expected in the near future.

It is more than obvious that HFpEF is in serious need for new therapeutic strategies. The use of therapies targeting pathophysiological mechanisms underlying HFrEF has not been effective in HFpEF. More research is needed to investigate and comprehend the mechanisms that may play an important role in the pathogenesis of HFpEF and may constitute future therapeutic targets.

Key words: heart failure, preserved ejection fraction, treatment

EA 008 ASSOCIATION OF REFLECTED WAVES AND LEFT VENTICULAR MASS: SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction/Background: Pulse wave reflection (PWR) is an integral part of the (patho-) physiology of the cardiovascular system. Elevated PWR, obtained non-invasively with multiple biomarkers, are associated with higher mortality. The present systematic analysis and meta-analysis aim to confirm the hypothesis that higher PWR are associated with increased left ventricular mass (LVM) and to investigate whether this correlation differs between the various methods and points where PWR are calculated.

Methods: After finding 726 articles, 28 articles emerged that met all the criteria of the meta-analysis (such as the type of study, the type, number and age of the sample, the English language and the absence of rare genetic diseases) and examined the correlation of the best known biomarkers of PWR (Augmentation Index, Augmentation Pressure, Backward Pressure, Reflection Index, Reflection Magnitude) calculated at the level of

both the central arteries (carotid or aortic) and the peripheral arteries (arms or finger), with LVM. The data of the selected studies were meta-analyzed with STATA 13.0 software, in order to obtain aggregate results.

Results: From the present meta-analysis it was found that higher PWRs are associated with higher LVM and that this correlation: (i) is independent of the methodology-technology used to calculate PWRs, (ii) is stronger when the measurement of PWRs had become closer to the heart, (iii) is independent of age, sex, and hypertension, and (iv) varies with heart rate.

Conclusion/Discussion: The data of this meta-analysis confirm the clinical value of PWR in the left ventricle structure. Clinical studies should be designed to aim the reduction of PWR in order to decrease the cardiovascular risk.

EA 088 CARDIO-ONCOLOGY: NEW PERSPECTIVES IN DIAGNOSIS AND TREATMENT

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Introduction: Cardio-oncology is a rapidly evolving specialty due to the high prevalence of cancer and the cardiotoxicity induced by anti-cancer therapies and cancer itself. The purpose of this work is to highlight the tools and treatment protocols used today for the early diagnosis and treatment of this cardiotoxicity, and under-study biomarkers and therapeutic tools that look very promising for the future.

Methods: The work is a literature review. Pubmed articles were reviewed using the keywords "Cardio-oncology", "cardiotoxicity", "cancer", "cancer therapeutics".

Results: For the prevention and early diagnosis of cancer-related cardiotoxicity, a complete cardiological examination is necessary before starting, during and after the end of the anti-cancer treatment. The examination usually includes electrocardiogram, ultrasound (using parameters such as Global Longitudinal Strain), biomarkers (troponin, BNP) and heart-MRI. Promising biomarkers for the early detection of cardiotoxicity are biomarkers of oxidative stress, inflammation, mitochondrial and endothelial dysfunction. Specific gene alleles have also been associated with an increased risk of developing cardiomyopathy from anticancer drugs. Furthermore, the use of induced pluripotent stem cells of a patient is being tested in order to find the appropriate anticancer drug at the appropriate and well-tolerated dose. For patients at high risk of developing cardiotoxicity, b-blockers, angiotensin converting enzyme inhibitors, aldosterone receptor antagonists, statins and dexrazoxane are selected to reduce this risk. Newer approaches under study for reducing the induction of cardiotoxicity by anticancer drugs are the use of ligands in chemotherapeutic drugs with the aim of selective toxicity to cancer cells and less toxicity to the normal cells of the heart, and the transport of anticancer drugs with some cardioprotective substances.

Conclusion: Cardio-oncology is a new, very important and rapidly developing field of Cardiology, which, with the early diagnosis and treatment of cardiovascular complications, helps cancer patients to continue their anti-cancer treatment, increases survival and improves their quality of life.

EA 120 CELLULAR SENESCENCE IN HEART FAILURE: THE BREAKTHROUGH OF SENOLYTIC THERAPY

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Introduction: Cellular senescence is a cell state, characterized by cell cycle arrest, senescence-associated phenotype expression (SASP), macromolecular damage and deregulated metabolic profile, implicated in a variety of physiological processes, as well as in a wide range of age-related diseases. Nowadays, numerous studies emphasize the role of cellular senescence in cardiovascular diseases (CVD), including, among others, heart failure (HF). Recently, senolytic therapy approaches, that is, bioactive compounds resulting in suppression or elimination of senescent cells, have been more and more promising in the field of CVD, especially in ischemic heart failure models .

Materials/Methods: Targeted literature review was conducted in PubMed and Google Scholar Databases, and a plethora of recent preclinical studies were collected and classified according to their content. Results were documented and evaluated for their consistency and reliability and eventually, conclusions were made.

Results: Cellular senescence has been shown to be directly related with congestive heart failure (CHF), evading every cell population, and more precisely, cardiomyocytes, endothelial cells, fibroblasts and cardiac progenitor cells. Senescence assessment and quantification is more than essential in this set of studies; so far, one of the most consistent algorithm is the multi-marker approach. In the set of heart-failing models, many bioactive compounds have been studied, such as dasatinib and quercetin (D+Q) and navlitoclax (ABT-263), showing reversing capacity of age- related dysfunction, not only through senescent cells elimination, but also, through promotion of regenerative capacity of cardiac tissue. These results emphasize the great potential senolytic therapy occupies and suggest a promising future therapy of cardiac diseases.

Discussion: When examining the role of cellular senescence in cardiac tissue, it is of immense importance to establish a consistent way of senescent cell detection (multi-marker approach). Senolytic therapy in heart-failing models constitutes a novel therapy, which eliminates senescent cell population, and, meanwhile, promotes myocardial remodeling and contributes to diastolic function and hemodynamic parameters restoration. However, senolytic therapy remains a non-specific therapeutic approach (neither cell nor disease-specific), with undetermined potential adverse events, the most crucial of which is tumorigenesis. In this context, senolytic drugs show real therapeutic potential for cardiac diseases, but, up to this point, remain distant from practical application in clinical settings.

EA 035 CLINICAL CHARACTERISTICS AND THERAPEUTIC APPROACHES OF AL AND ATTR AMYLOIDOSIS FROM A REFERRAL CENTER IN GREECE

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Introduction: Amyloidosis refers to a group of rare diseases caused by deposits of amyloid fibrils in tissues and organs. Immunoglobulin light-chain (AL) amyloidosis, also known as primary amyloidosis and transthyretin

amyloidosis (ATTR) are the two most common types of amyloidosis. The aim of this study was to present the clinical characteristics and therapeutic algorithms for AL and ATTR amyloidosis in Greece.

Methods: Prospective data collection of patients with AL and ATTR amyloidosis from a referral center in Greece (Department of Clinical Therapeutics Alexandra Hospital).

Results: The analysis included 400 patients with AL amyloidosis. The most commonly affected organs were the heart (75%) and kidneys (66%); edema (71%), congestive heart failure (57%), orthostasis (40%) were the most common clinical features. Biopsy is key to diagnosis and the most commonly used site was bone marrow, abdominal fat and kidney; the sensitivity of these biopsies was 50%, 78%, and 95.5% respectively. Treatment for AL amyloidosis was mostly based in bortezomib containing regimens (>70%) while anti-CD38 monoclonal antibodies are increasingly used; about 40% of patients received at least a second line of therapy. The data from 100 patients with ATTR cardiomyopathy confirmed male predominance (85%); median age was 81 years and only 26% had a positive biopsy for amyloid. The most common clinical findings included peripheral edema (57%), peripheral neuropathy (44%) and decreased eGFR (43%). Most patients had NYHA stage 2 heart failure (55%) but 23% had NYHA stage 3 symptoms; atrial fibrillation, pacemaker, coronary disease and aortic stenosis were common. In 9% genetic testing showed TTR gene mutations. Beyond treatment for HF symptoms, specific therapies included tafamidis (in 50%) and less often doxycycline or antisense oligonucleotides (ASO).

Conclusion: The current analysis provides data about the characteristics of patients with AL and ATTR amyloidosis that could improve the detection and early diagnosis of the disease.

EA 097 PROPHYLAXIS AGAINST THERAPEUTIC DOSE OF ANTICOAGULANT THERAPY IN COVID-19 PATIENTS HOSPITALIZED IN THE INTENSIVE CARE UNIT (ICU).

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Introduction: The SARS-CoV-2 virus-induced CoViD-19 pandemic is a respiratory infection with known complications in multiple systems. The limited availability of specialized medication favors the progression of the disease and, especially in specific population groups, requires hospitalization and care in Intensive Care Units (ICU). As part of ICU treatment, the critically ill patient is supported by mechanical ventilation and

receives targeted medication, which includes, inter alia, anticoagulant therapy. The dose of anticoagulant therapy, prophylactic or therapeutic, is not entirely clear, based on current guidelines, due to the fragile balance between bleeding and thrombosis in patients with CoViD-19 in ICU. The purpose of this study is to investigate the effectiveness and complications of prophylactic versus therapeutic dose of anticoagulant therapy (thrombotic and hemorrhagic events) in patients with CoViD-19 disease admitted to ICU. Patient survival is also recorded, and the results are compared with the international bibliography.

Materials-Data: Retrospective observation study and data analysis of patients with CoViD-19, intubated under mechanical ventilation in the ICU of AHEPA hospital during the years 2020-2022. The study included 14 patients (mean age 63 ± 14 years, 8 men, 6 women) who developed a hemorrhagic or thromboembolic event while receiving a therapeutic or prophylactic dose of low molecular weight heparin (LMWH).Data is recorded from the patients' medical file and an electronic database is created for analysis and statistical processing with the SPSS statistical package.

Results: The main characteristics of the patients are shown in Table 1. The dosage of anticoagulant therapy and complications are shown in Table 2. Table 3 shows the comparison of complications between therapeutic and prophylactic dose of LMWH.

Conclusion-Discussion: Half of the patients received the therapeutic dose of LMWH due to CoViD-19 disease to avoid thromboembolic complications. Thromboembolic events in the sample were less (35.7%) than hemorrhagic ones (57.1%). However, as revealed after comparing the two doses of LMWH, this was irrelevant to the use of the therapeutic dose of LMWH, which, surprisingly, demonstrated a higher percentage of thromboembolic episodes (71.4% vs. 28.6%, p = 0.005) and favored the use of the prophylactic dose of LMWH. There were no statistically significant differences between the groups regarding bleeding and death. Therefore, it appears that the use of a prophylactic dose of LMWH in intubated ICU patients with CoViD-19 infection offers adequate coverage of thromboembolic complications without increasing the risk of bleeding or death.

General Surgery

EA 032 THE ROLE OF PROBIOTICS IN THE PREVENTION AND TREATMENT OF POSTOPERATIVE COMPLICATIONS IN BOWEL SURGERY

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Introduction: Probiotic, prebiotic and symbiotic bacteria are known for their role in enhancing intestinal function. One of the cases where the changes in the intestinal microflora affect the function of the gastrointestinal system and consequently the organism, are the postoperative complications after surgery in the intestine. In particular, the action of probiotics is important for recovery and reducing the frequency and severity of complications. The aim of the presentation is to describe the role of probiotics in the prevention, reduction of severity, frequency and treatment of postoperative complications after bowel surgery.

Methods - Data: This paper is a literature review of the scientific papers published up to 1/2022 in Pubmed, which describe the action of probiotics in the prevention and treatment of postoperative complications after bowel surgery. The definition of probiotics was given after a search by the World Health Organization and the Food and Drug Administration. Pubmed search was limited to studies published in English. Exclusion criteria included: conference papers and articles available only in summary. The evaluation was done in full text and based on the same criteria.

Results: The use of probiotics pre- and postoperatively is safe and important, especially in terms of the frequency of postoperative infections, the patient's stay in the hospital and the duration and severity of antibiotic treatment. In addition, probiotics act preventively by reducing the appearance and severity of complications but also by reducing atrophy of the intestinal mucosa due to parenteral nutrition.

Conclusion-Discussion: A significant number of clinical trials recognize and highlight the critical role of probiotics in maintaining health, preventing and treating morbid conditions. Probiotics act mainly in the colon with significant action in the restoration of the microbiome and its function. They contribute to the synthesis of vitamins, metabolism and the creation of amino acids and DNA. They work preventively by reducing the appearance and severity of postoperative complications, limiting atrophy of the intestinal mucosa due to parenteral nutrition and highlighting important, biological effects on the development and integrity of the mucosal intestinal barrier.

EA 111 ECTOPY OF THE GALLBLADDER: PRESENTATION OF AN INTERESTING CASE

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Introduction: The ectopic position of the gallbladder is a rare anatomic variant with an incidence between 0.1%-0.7% and can be found in many locations. In this report we present the case of a patient who underwent surgical treatment for cholelithiasis during which the gallbladder was found inside the transverse mesocolon.

Materials and Methods: A 51-year-old male patient with history of previous episodes of lithiasic cholecystitis and arterial hypertension presented to the hospital for a scheduled elective laparoscopic cholecystectomy surgery. Intraoperatively, the transverse colon was found adhered to the liver and symphysiolysis was performed. After the uncovering of the gallbladder fossa, the gallbladder was not found. The operation was converted to an open cholecystectomy via Kocher incision. The gallbladder was found embedded in the transverse mesocolon. The rest of the elements of the biliary tree and the vessels showed no anatomical differentiations. The surgery continued with the careful mobilization of the gallbladder from the transverse mesocolon, ligation of the cystic duct and artery, and resection of the gallbladder. The post operative course was uneventful.

Results: The term 'floating' gallbladder was first reported in 1965 and characterizes a gallbladder that is surrounded by peritoneum. At the time of this report only 3 other cases of a gallbladder located inside the transverse mesocolon are reported in the literature. Findings via imaging with abdominal ultrasound can be normal. The diagnosis is therefore made during surgery.

Conclusion: In conclusion, the ectopic position of the gall bladder is a rare entity mandating caution by the laparoscopic surgeon. Appropriate modifications of surgical approach and technique are required in these patients.

EA 065 TREATMENT OF RECURRING SACROCOCCYGEAL PILONIDAL SINUS WITH LIMBERG FLAP.

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Introduction/Background: The pilonidal sinus disease is a very common inflammatory condition of the intergluteal fold and occurs generally in a young age. Treatment varies and includes small incision and drainage, surgical excision or endoscopic ablation, as well as the use of complex skin flaps.

Purpose: A case report is performed to describe the surgical procedure using Limberg flap and to investigate the postoperative course of the patient.

Methods: A case of a 42 year old man, who was deemed suitable to be treated with Limberg flap, due to multiple relapses, after surgeries of various technique, is reported. After wide excision of the affected skin, a rhomboid flap was made, known as Limberg flap.

Results: The patient did not have any immediate postoperative complications and he was discharged on the 2nd postoperative day. There was no necrosis of the flap nor recurrence of the disease in a follow up period of up to 6 months after surgery.

Conclusion/Discussion: The use of Limberg flap is a safe and effective technique that can be used as a treatment of recurring sacrococcygeal pilonidal sinus and is characterized by a good postoperative course and an excellent long term prognosis.

EA 092 INCREASED MORBIDITY RATES OF ACUTE APPENDICITIS DURING THE COVID-19 PANDEMIC. THE EXPERIENCE OF OUR CLINIC.

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Introduction/Background: The SARS-CoV-2 pandemic has led to an increase in the incidence of acute appendicitis in patients arriving late to the Emergency Department, while at the same time there has been a reduction in appendicitis cases after the new restrictive measures. The aim of our paper is to highlight the correlation between the pandemic and the increase in the incidence of severe acute appendicitis.

Methods: In our retrospective review, we recorded the cases of appendectomy in our clinic, of two equal intervals of 21 months before and during the pandemic: (period A, period B). We performed a comparative analysis of the intraoperative state and the making of intraoperative decisions. We defined the early and purulent stage as uncomplicated acute appendicitis and the complicated one as the gangrenous stage, rupture, abscess, peritoneal inflammation (plastron), peritonitis. We compared complicated and uncomplicated appendicitis, the use or not of drainage tubes, and the access section (McBurney or other).

Results: Our review revealed 88 cases in period A and 76 in period B. Our findings showed an increase in complicated cases by 11% (A: 32%, B: 43%). At the same time, the Mc Burney sections decreased by 4% (A: 71%, B: 67%) and the use of drains by 2% (A: 45%, B: 43%). Finally, it is noteworthy that one patient needed postoperative hospitalization in the intensive care unit (period B)

Conclusion/Discussion: We conclude that the surgical state of cases of acute appendicitis during the pandemic period was significantly more severe than the previous period. According to similar literature studies, there is a strong correlation between the worsened clinical state and the delayed arrival of patients in the hospital, due to fear of exposure to the virus, but also between the aforementioned state and the change in the management of patients during the pandemic. This raises the question of whether, the necessary in the context of the pandemic, different management of patients potentially increases the morbidity of both acute appendicitis and other surgical conditions.

EA 001 LAPAROSCOPIC ADRENALECTOMY: FOUR YEARS OF EXPERIENCE THROUGH A CASES' SERIES OF OUR CLINIC

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Introduction/Background: Laparoscopic adrenalectomy is the golden standard method for the surgical resection of adrenal adenomas. Gagner et al. first reported in 1992 the transverse abdominal laparoscopic approach to adrenal resection, which is now one of the most widely used techniques, compared to the retroperitoneal approach. The purpose of this retrospective study is to present our experience in laparoscopic adrenal resection for the treatment of benign adrenal diseases.

Methods/Data: During the last 4 years, 8 patients underwent laparoscopic adrenalectomy in the Surgical Department of the University Hospital of Ioannina. All patients were females, with an average age of 45 years, presenting with benign adrenal tumors. An extensive review of the patients' files was carried out, also data regarding patients' demographics, laboratory and imaging examinations, operations performed and outcomes, and the histology report of the tumors were collected.

Results: All 8 patients underwent laparoscopic adrenalectomy with negative surgical margins (R0). Four neoplasms were incidentalomas, while the rest were secretively active (3 produced cortisol, 2 aldosterone). The histology reports were consistent morphologically and immunohistochemically with adenomas, Weiss score II. The patients' mortality rate was 0%. Postoperatively an obese patient developed respiratory distress. The patients' follow-up showed early recovery and complete remission of the disease. None of the patients developed postoperative hernia, while three patients needed postoperative substitution treatment with corticosteroids.

Conclusion/Discussion: Laparoscopic adrenal resection is, under certain conditions, the proposed treatment method for patients with secretory or non-secretory benign neoplasms.

EA 048 BREAST CANCER-SENTINEL LYMPH NODE BIOPSY-DEVELOPMENTS IN DETECTION METHODS

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Introduction: Most patients with breast cancer currently undergo sentinel lymph node biopsy. This population also includes patients who have undergone neoadjuvant chemotherapy and according to the current clinical guidelines, the sentinel lymph node biopsy should be performed after the treatment has been completed. The successful detection and meticulous examination of the sentinel lymph node(s) is crucial for the (re)evaluation of the stage as well as for the assessment of treatment efficacy.

Method/Materials: A sentinel lymph node is the first lymph node to which cancer cells are most likely to spread from a primary tumor through the lymphatic vessels. The detection of the sentinel lymph node becomes more difficult in patients who have undergone neoadjuvant chemotherapy due to the changes in both the lymphoid/lymphatic tissue and the mammary parenchyma.
The detection methods include the following: 1) use of radioactive-labelled substance (Tc-99m with nanocolloid, sulfur colloid, antimony sulfide), 2) use of dyes: isosulfan blue (patent blue), methylene blue, and indocyanine green (ICG), 3) use of super paramagnetic iron oxide (SPIOs, Magtrace). Lately, the ICG and the Magtrace tracers are widely used for the detection of the sentinel lymph node. Regarding the sentinel lymph node biopsy after treating them with neoadjuvant chemotherapy, it has been suggested to use two differect

detection methods (e.g. dye plus isotope, two different dyes, Magtrace plus dye) so as to increase the chances of successful detection.

Results: The advantages and disadvantages of each method are discussed as well as current developments regarding their application. The success rates of both single and double detection methods are reported, focusing on the detection of the sentinel lymph node after treating them with neoadjuvant chemotherapy.

Conclusion-Conversation: The advancement of the existing detection methods is crucial since they are widely used for patients who have undergone neoadjuvant chemotherapy according to the new clinical guidelines.

EA 055 TRANS-WOMEN SEX AFFIRMING SURGERY AND POSTOPERATIVE QUALITY OF LIFE

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Introduction/Background: More and more people nowadays are faced with the feeling of genetic discomfort, which is addressed to the mismatch between the biological sex and the sex that they experience. This condition creates serious psychosocial consequences, which can not be avoided solely with psychiatric-psychological support and endocrine assistance, but often require surgical treatment, which allows the change of biological sex through a wide range of surgical procedures.

Aim: This research focuses on the process of the sex affirming surgery of trans women (male to female). In particular, it aims to assess their quality of life after the underlying surgery

Methods: After a systematic review of the literature through the PubMed, EMBASE, CENTRAL, MEDLINE and NLM databases, we examined the new surgical procedures and the methodology related to the gender reassignment surgery of men with genetic discomfort who want to become women. At the same time, the postoperative quality of life of trans women was evaluated after analysis of authentic retrospective and prospective studies

Results: Although the various types of short-term complications (with infections predominant) are a consequence of this surgery, the quality of life seems to improve significantly after surgery. More specifically, progress is being made in the following areas: mental health, body image, social interactions, sexual contact and the workplace.

Conclusion/Discussion: Undoubtedly, gender reassignment surgeries promote the improvement of the daily life of trans women, as they contribute positively to their functionality and psychology. However, even postoperatively, the quality of life of transgender people remains lower than that of the general population. Therefore, it is suggested that more research be done on these surgeries.

Gynaecology

EA 108 PREGNANCY AND VACCINATION AGAINST COVID-19 INFECTION: CONTEMPORARY GREEK REALITY

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Introduction: The purpose of this paper is to present the current clinical data related to pregnancy in relation to the pandemic, Sars-Cov-2 infection and vaccination, as well as to present the concerns raised by the women themselves.

Methods: The data of the study result from the statistical analysis and processing of questionnaires, to which pregnant women gained access after contacting the line "ELPIDA ZOIS" (2132039142). The online questionnaire was sent to them via e-mail and then the answers were collected and processed in Excel. The data collection process lasted 4 months and concerns 178 answered questionnaires.

Results: Based on the above, a variety of results were obtained, which for the purposes of this summary the main ones are only presented; the age of the population sample varies from 21-49 years with 75.3% referring to natural conception. 6 (3.4%) women smoked during pregnancy and 33 quit during (18.5%). 13.5% of women developed complications during pregnancy, with diabetes melitus being the most common. Regarding vaccination coverage, 29.2% of pregnant women had not been vaccinated, citing the fear of potential long-term complications for their baby as the main reason. 6.2% became ill with Covid-19 infection. Finally, the main emotions are fear, anxiety, stress and insecurity, while the predominant fear throughout pregnancy was related to the health of the fetus.

Conclusions: The pandemic is an ongoing situation in which vaccination now plays a key role. Through this essay we have a view as objective as possible in the modern Greek reality.

EA 114 MORPHOLOGICAL STUDY OF THE ORBITAL WALL FORAMINA. VARIATIONS IN NUMBER AND LOCATION

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Introduction: The zygomatic bone shows variations in the number of foramina in both the facial area and the eye socket. The aim of the current study is to emphasize the importance of the variants of the foramina observed in the lateral orbital wall in relation to the gender and the age.

Method: 118 (80 male and 38 female) dried adult Greek skulls were studied on both sides (236 observations) to identify differences in the number of foramina.

Results: The zygomaticofacial foramen is often identified as a single foramen unilaterally. The same is true for the zygomaticotemporal foramen. The zygomaticotemporal foramen usually is absent. The zygomatic nerve may be injured in periorbital approaches (lateral orbitotomy) during resection of intraorbital tumors, when they involve soft tissue.

Conclusions: The detailed knowledge of morphometry is useful for the surgeon who will perform maxillofacial surgery and nerve block in the area. The orbital variants are common, and the surgeon should always consider them in order to increase the success rates of surgery.

EA 026 PREMATURE BIRTH PREVENTION: A CHALLENGE FOR TWIN PREGNANCY

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Introduction: Premature birth represents one of the most important obstetric complications in twin pregnancies, causing higher rates of perinatal mortality and morbidity compared to singleton pregnancies. To prevent premature birth in twin pregnancies, three methods have prevailed: pessary, cerclage and progesterone. The purpose of this paper is to evaluate the effectiveness of the above-mentioned three methods.

Methods / Data: The present study is a systematic review of research data. The selection criteria of the above studies were: 1)the year of publication to be from 2015, 2) to consider exclusively twin pregnancies and 3) their primary result to be: spontaneous birth in pregnancy <34 weeks. The selected studies were: for the pessus: 3 Prospective randomized trials, for the cerclage: 2 retrospective cohort studies and a data meta-analysis, for the progesterone: one systematic review and meta-analysis and 2 randomized double-blind trials.

Results: The research results included in this systematic review are contradictional. No method of preventing premature birth seems to prevail over any other. Even in comparing the same method between different studies, its benefit is doubtful because of the conflicting results. Thus, while in the majority of the studies all interventional methods show a positive effect on the outcome of pregnancy and in the prevention of premature birth, this does not seem to have dramatic differences from the routine management of the pregnant woman with the established methods. Therefore, there is currently insufficient data to suggest a standardised method of preventing preterm birth.

Summary / Discussion: Pessus, cervical cerclage and progesterone have been used in twin pregnancies either as a precautionary measure or as an indication, but so far the available data is limited or controversial to provide a definitive conclusion about their effectiveness as a preventive tool in this subset of pregnancies. It is therefore necessary to conduct larger randomized studies focusing on twin pregnancies in order to obtain a clearer and more valid view on this important and extremely common issue.

EA 047 THE FREQUENCY OF LUTS AMONG PREGNANT WOMEN DURING THE THIRD TRIMESTER

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Introduction: The Lower Urinary Tract Symptoms (LUTS) are often detected in pregnant women, affecting their quality of life. This study was conducted in order to determine the frequency of LUTS and Urinary Incontinence (UI) during the third trimester of pregnancy.

Method: The study was carried in the outpatient clinics of the "Papageorgiou" General Hospital and the "Bioclinic" private clinic, both situated in Thessaloniki. The participants, 60 women in total (study group), came to the outpatient clinics for their scheduled checkup during their third trimester of pregnancy. Meanwhile, the questionnaire was filled by 12 non-pregnant women, who composed the control group. The international questionnaire ICIQ – FLUTS (International Consultation on Incontinence Questionnaire – Female Lower Urinary Tract Symptoms) was used, in order to determine the symptoms of the lower urinary tract and the pregnant women's quality of life.

Results: During the nighttime, the pregnant women tend to wake up from two (39.5%) to four (14%) times, as opposed to the non-pregnant women, who in their vast majority (75%) do not wake up whatsoever. Similar differences between the two groups are found throughout all answers received from the ICIQ – FLUTS.

Conclusion: The quality of life and the urination habits differ between the pregnant women in their third trimester and the control group. Specifically, the study group show Lower Urinary Tract Symptoms and Urinary Incontinence more frequently.

EA 046 NON-INVASIVE PREIMPLANTATION GENETIC TESTING FOR ANEUPLOIDY: FROM CELL-FREE DNA ANALYSIS TO ARTIFICIAL INTELLIGENCE

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Introduction: The term ''non-invasive preimplantation genetic testing for aneuploidy'' (niPGT-A) refers to newly introduced state-of-the-art techniques, aiming to analyze the embryo's chromosomal profile, without compromising its architecture and developmental potential. The aim of the present study is to comprehensively present, as well as to report on the efficiency of these new techniques, in comparison to the gold standard method of PGT, employing invasive blastocyst trophectoderm biopsy.

Materials-Data: A comprehensive review of current literature was performed in Embase and PubMed/Medline databases, employing appropriately design search strategy. Articles comparing niPGT-A methods with the gold standard invasive PGT-A were considered for eligibility to be included in this review.

Results: Seventeen articles were considered eligible for inclusion. In five of these studies niPGT-A was performed employing analysis of morphokinetic data originating from time-lapse imaging and artificial intelligence evaluation. Eight studies reported results with regards to cell-free DNA isolation from culture media and one study from cell-free DNA isolation from the blastocele cavity. Three studies reported results following a combined analysis of the aforementioned techniques. Fourteen studied reported on sensitivity and twelve studies on specificity, ranging from 65.5-100% and 48.3-100%, respectively. Seven studies reported on the positive and negative predicting values, ranging from 47-100% and 46.7-100%, respectively. Moreover, the accuracy was evaluated in five articles ranging from 67.7-100%, while the concordance rate was evaluated in eight studies ranging from 55.6-100%. In addition, four studies reported on the area under the curve (AUC) ranging from 0.74-0.82.

Conclusion-Discussion: The current methods for niPGT-A seem to be accurate and efficient, opening new horizons in the field of assisted reproductive medicine. However, more data is needed towards establishing a widely accepted and well-defined protocol for niPGT-A. Future well-designed and large randomized controlled trials are needed prior to introducing niPGT-A in the daily clinical practice.

Infectiology

EA 075 GUILLAIN-BARRE SYNDROME AS A NEUROLOGICAL COMPLICATION OF COVID-19

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Introduction: The novel coronavirus (COVID-19) is a global pandemic. Although the main clinical manifestation of COVID-19 is respiratory involvement, there is evidence suggesting the neuroinvasive potential of COVID-19. One of them is Guillain-Barre syndrome.

Methods: For the present study, a literature research was conducted in Pubmed from which articles from the past 2 years were selected. The articles were written in the English language and mainly related to cases of patients with Covid-19 infection and Guillain-Barre syndrome, but also reviews that were based on these cases.

Results: Guillain-Barré syndrome is a heterogeneous disease that frequently follows a bacterial or viral infection. During the ongoing SARS-CoV-2 pandemic, several isolated case reports and case series have suggested an association between this viral infection and the occurrence of Guillain-Barre syndrome. The patients were mainly men and their mean age was 59 years. The main mechanism of Guillain-Barre syndrome is probably post-viral dysregulation of the immune system generated by SARS-CoV-2. The clinical characteristics and therapy seem to be similar to those observed in Guillain-Barre syndrome secondary to other etiologies, but the outcome is worse compared to non Sars-CoV-2 patients. Since there are no studies about the optimal treatment of Sars-CoV-2 Guillain-Barre subtypes available, they should be treated empirically in the same way as non- Sars-CoV-2 Guillain-Barre subtypes. Early diagnosis of Sars-CoV-2 Guillain-Barre syndrome is warranted because if appropriate treatment is applied in due time, the overall outcome from the infection may improve.

Conclusion: Due to the association of Guillain-Barre syndrome and COVID-19, it is recommended that the patients be followed up by physicians with respect to neurological manifestations.

EA 101 RECURRENT URINARY TRACT INFECTIONS

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Introduction: The purpose of this announcement is to inform the public about recurrent urinary tract infections in women. These refer to two or more symptomatic episodes within two months or three or more symptomatic episodes within twelve months.

Methods: Using the keywords “definition, epidemiology and risk factors of recurrent urinary tract infections”, “pathogenic microorganisms” and complications” at “Pub med” website literature review was performed until February 25, 2022. After reviewing 22 articles, I decided to show you the outcome of 13 of them.

Results: At least 50% of women will experience an urinary tract infection during life time. 20-40% of them will have a second episode and up to half of this population will experience recurrent urinary tract infections. Most recurrences are reinfections rather than relapses. The major risk factors for recurrent urinary tract infections are recent sexual activity, diabetes mellitus, the age of the first urinary tract infection, previous urogenital surgery, urinary incontinence, bladder voiding dysfunction such as in women with neurogenic bladder or urinary tract obstruction and immunosuppression. Concerning postmenopausal women, additional risk factors are previous urinary tract infection, presence of cystocele, lack of estrogens and bladder catheterization. The most common uropathogen isolated is Escherichia Coli(80%), followed by Staphylococcus saprophyticus(10%-15%). Other uropathogens are Klebsiella pneumonia, Proteus mirabilis, Pseudomonas aeruginosa, Enterobacter, Enterococcus and Serratia., Finally, recurrent urinary tract infections can lead to complications such as abscess, pyelonephritis or even sepsis.

Conclusion/Discussion: Recurrent urinary tract infections usually concern a specific population of women with risk factors. Understanding the epidemiology and pathogenesis of them will help us discover new prevention strategies and new therapies other than antibiotics, due to increasing resistance to them. No response to treatment can lead to severe health complications.

EA 093 PERSISTENT CRYPTOCOCCOSIS. DIAGNOSTIC AND THERAPEUTIC CHALLENGE.

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Introduction: Cryptococcus is a unicellular fungus that can mainly affect immunocompromised patients. Infection usually occurs by inhalation, but mainly affects the CNS. The aim of this study is to present a clinical case of persistent cryptococcal infection in an immunocompromised patient with long-term stay of cryptococcal antigen, despite systematic and targeted antifungal treatment.

Clinical Case: An immunosuppressed patient, 48 years old, had presented fever (10/2019) and was hospitalized in Athens. She suffered from rapidly evolving glomerulonephritis, had been on dialysis since 2017 and had undergone a kidney transplant (05/2019). There was no remission with empirical antibiotic therapy and laboratory tests showed the presence of Cryptococcus neoformans in blood culture. Antifungal treatment with amphotericin and fluorocytosine was administered. PET / CT (11/2019) revealed possible cryptococcal lymphadenitis. Cryptococcal positive antigen was detected in the cerebrospinal fluid in successive lumbar punctures, despite the negative cultures. CT and MRI of the brain revealed numerous brain lesions and edema. IRIS syndrome was diagnosed and dexamethasone was administered with gradual improvement. Due to the deteriorating renal function, the hospitalization was extended and it was decided to remove the kidney transplant (01/2020). The patient has since been periodically hospitalized in the Nephrology Department of 424 GSNE for dialysis, monitoring of fungal infections, as well as the therapeutic levels of antifungal drugs (voriconazole and fluorocytosine) in collaboration with the Laboratory of Fungology of AUTh. The patient has been receiving long-term treatment with amphotericin (or in combination with fluorocytosine) as well as voriconazole. Laboratory tests continue to detect cryptococcal antigen in the blood and CNS, in a variety of

titers with a gradual decrease. The corresponding cultures are consistently negative and the inflammatory markers are at normal levels.

Conclusion-Discussion: Cryptococcal infection is life threatening and is a diagnostic and therapeutic challenge, as its course can be long and with persistent relapses. Cryptococcal antigen can be consistently detected positively, despite targeted treatment, revealing a possible latent presence of the fungus.

EA 126 MANAGEMENT OF EMERGENCY CASES; WHAT COVID 19 TAUGHT US

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Introduction: During the COVID-19 pandemic, European public health systems have faced challenges of emergency management, availability and allocation of resources, coordination of health personnel, as well as cooperation with state agencies and authorities. The purpose of this systematic literature review is to identify the needs related to safety, organization, decision-making and resource allocation that arose during the acute phase of the pandemic and to suggest ways to address it for future use.

Methods/Data: An online search was carried out in the Pubmed and Cohrane library databases for studies published until January 2022. The mesh words were used: covid 19, disaster planning, crisis management, healthcare workforce and resource allocation. Articles published in English concerning European countries and the United Kingdom were included.

Results: The results refer to surveys conducted in Italy, Germany, Austria, Greece and the U.K. Despite the immediate implementation of measures to limit the transmission of the virus, the increasing number of cases has been a challenge for national health systems. Governments have made emergency recruitments and health contracts available, funds have been made available to increase the number of ICU beds and shortages of medical and personal protective equipment. There has also been a significant decrease in the number of patients in emergency departments, but the rates of delayed occurrence of serious cases have increased. In the surgical sector, for the most part, only major surgical operations were carried out.

Synopsis/Discussion: The health crisis caused by the Covid 19 pandemic, highlighted the need for an emergency management algorithm for immediate application in conditions of epidemiological crises. It is necessary to develop a functional algorithm for the proper allocation of medical resources, coordination of all levels and healthcare units, as well as cooperation with other government bodies.

EA 060 VIRTUAL PATIENT SIMULATIONS FOR REAL PATIENT EDUCATION DURING THE COVID-19 PANDEMIC: A USABILITY ANALYSIS

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Introduction/Background: The present study aimed to investigate the overall usability of implemented virtual patients as educational tools for vulnerable groups of patients during the Covid-19 pandemic, as well as analyse data based on different demographic characteristics.

Methods: During 2020-2021, six (6) simulations were performed, including the issues of support and inform cancer and cardiology patients regarding quarantine and the pandemic in general. Twenty-eight (28) patients, fifteen (15) heart patients and (13) cancer patients attended educational conferences that incorporated virtual patient scenarios. An online questionnaire was used as material for the evaluation of the usability of the virtual patients and data was collected as feedback on the experience as well as the demographic data of the participants. The questionnaire used was based on the System Usability Score (SUS score) and the educational outcome evaluation questionnaire from the use of virtual patients by the eVip toolkit. The answers of the participants were statistically analyzed using the statistical package SPSS to draw the necessary conclusions.

Results: The evaluation of the usability of the system seems to have fluctuated at high levels, (SUS score = 90.77). Particularly increased usability emerged in patients that are younger and of higher educational background, which was to be expected due to the higher familiarity of these patients with new technologies.

Conclusion/Discussion: Through this study, virtual patients were proven to be important educational tools for patients, especially during the period of social distancing amid a pandemic. It seems that their usability remains high regardless of the disease entity, educational level, gender, and age group.

EA 052 BIBLIOGRAPHIC DOCUMENTATION OF BEDSIDE ULTRASOUND'S CLINICAL IMPORTANCE IN SEPSIS

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Introduction: The aim of the presentation is to highlight the importance of the use of bedside ultrasound in a septic patient in the Emergency Department.

Methods: The data were obtained through a bibliographic search in the PubMed medical database. Keywords used: Bedside ultrasound, abdominal ultrasound, heart ultrasound, sepsis, resuscitation fluids, emergency. The following criteria were set in the search: articles in English, articles published after 2010.

Results: 3 published articles were studied, through which it was realized that the use of bedside ultrasound in the Emergency Department has helped to make a more immediate diagnosis and more targeted treatment of the patient with sepsis, reducing the mortality rate. The contribution of bedside ultrasound concerns the control of the respiratory, cardiovascular, gastrointestinal and urological systems for the detection of foci of infection or other pathologies that require immediate therapeutic intervention (eg pleural effusions, endocarditis, hydropneumonia). In addition, its use improves the prediction of indicators for calculating fluid loss and response to fluid administration, such as central venous pressure, pulse volume, and cardiac output.

Conclusion/Discussion: Bedside ultrasound should be an integral part of the approach of the patient with sepsis in the Emergency Department, as it seems to offer the ability of a systematic, rapid and effective diagnosis and treatment.

EA 039 ONE HEALTH

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«One Health» refers to an innovative interdisciplinary approach to the design and implementation of programs, policies, legislation and research in a context where many sectors collaborate for optimal public health outcomes. The central concept is the interaction between humans, animals and the environment. International organizations take actions by educating the community for the protection of people, animals and the environment, while at the same time they propose solutions for the spread of zoonotic and infectious diseases, for food safety, for the increasing microbial resistance, as well as other possible threats in community health. The first axis of interest is on the environment and the negative impact of humans on the planet. Human actions are disrupting the Earth's ecosystems, eliminating genes, species and biological characteristics at an alarming rate. Climate change leads not only directly to diseases (respiratory, cardiovascular, skin) but also indirectly to pathological conditions (eg carcinogenesis) through gene mutations and epigenetic changes. The second major area of concern is the interplay between human and animal health. It is estimated that about 6 out of 10 infectious diseases in humans are transmitted from animals, while 3 out of 4 new infectious diseases in humans are zoonotic. The COVID-19 pandemic confirms the value of the «One Health» program. The third axis concerns human health, physical and mental. An interesting example is the human microbiome, which contributes significantly to the maintenance of homeostasis in the human body and interacts with the microbiome of animals and the environment and is influenced by environmental conditions and diet. In conclusion, the goal of «One Health» is to ensure the harmonious interaction of humans, animals and the environment. Collective and interdisciplinary effort is necessary to achieve this goal. Cooperation of all countries is important for the design of strategies and programs that will ensure public health.

Internal Pathology

EA 053 FREQUENCY, SAFETY, AND REASONS FOR NON-COMPLIANCE OF SARS-COV-2 VACCINATION AMONG PATIENTS WITH SYSTEMIC RHEUMATIC DISEASES

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Introduction: This study aims at documenting the rate and severity of vaccine-related adverse events (AEs) and vaccine-related systemic rheumatic disease (SRD) flares. Simultaneously, patients noncompliance to vaccination protocols is investigated.

Methods-Data: In the outpatient Rheumatology Clinic of "Hippokration General Hospital" (referral center for SRDs), personal-structured interviews with prespecified questionnaires were conducted in consecutively enrolled SRD patients (10/01/2022 - 25/01/2022). After data extraction, descriptive, but also inferential statistics methods (univariate regression analysis) were conducted to examine potential associations of demographic, epidemiological, clinical and other features with AEs, disease flares and vaccination hesitancy.

Results: 92 patients were included in the study (women: 82%); vaccination rate was 86%, and vaccine- related AEs were reported by 55/79 (70%) of the vaccinated patients. According to their severity, AEs were categorized as mild (82%), moderate (17%) or severe (1%). Patients-reported disease flares (19/79) were found to differ significantly with the documented, after rheumatologic assessment, disease flares (2/79). Among unvaccinated patients (13/92, 14%), the risk of thrombosis and disease flare emerged as the major reasons for noncompliance to vaccination. The decision for non-compliance was more commonly a personal one (54%) or influenced by the media (31%). Greater rates of noncompliance were observed among patients with antiphospholipid syndrome (APS) and Systemic Lupus Erythematous (SLE).

Conclusion-Discussion: The results of our real-life contemporary study show that most Greek patients with SRDs were vaccinated against SARS-CoV-2 with few mild AEs and physician-documented disease flares. The main reasons for non-vaccination included fear of thrombosis and disease flare, a decision mainly influenced by personal beliefs and media coverage. Patients with APS and SLE were most likely to remain unvaccinated. These results emphasize the need for educational campaigns aiming at reassuring patients about vaccine-safety.

EA 083 FIVE-YEAR RETROSPECTIVE STUDY OF PATIENTS WITH INFLAMMATORY MYOPATHIES IN THE MODERN TREATMENT ERA: A SINGLE CENTER EXPERIENCE

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Introduction: Polyomyositis and Dermatomyositis belong to inflammatory myopathies characterized by symmetrical proximal muscle weakness, inflammation of skeletal muscles and skin rash. Inflammatory myopathies vary in clinical picture, immunological profilr, treatment response as well as outcome. The report aims to categorize, quantify and systematically analyze data related to a five-year period case study undertaken on patients from a single center experience.

Methods: Initially, a retrospective study of patient's medical records for the past five years was performed. The demographic parameters, clinical picture, initial symptoms and development of the disease were recorded, as well as laboratory/immunological findings, treatment response and overall patients' condition. The total number of case studies is 37 patients (n=37).

Results: Due to the nature of the retrospective research it is not feasible to provide any results for the time being.
Nonetheless, the statistical analysis will focus on the evaluation of the characteristic observations which the patients present. Henceforth, mean values from each case study will be used to generate graphical representations such as plots and charts that will represent each patient's evolution over time.

Summary/Discussion: Investigate the variety of symptoms, laboratory data, autoimmune profile and therapy response as well as the comparison to other literature references.

EA 024 HETEROSEXUAL PUBERTY IN GREEK MYTHOLOGY

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Introduction: Heterosexual puberty is the appearance of secondary gender characteristics, different from the sex given to the newborn at birth. The concept of metamorphosis (change of form, structure, or substance) is very frequently encountered in Ancient Greek literature, with sex reversal being a very common subtype. Herein, we present two typical cases from mythology, containing elements of pubertal gender inversion: the myth of Kaneas and the myth of Leucippus. Also, we provide a medical-pathophysiological interpretation of the myths and we attempt to establish a diagnosis.

Methods-Data: A search was conducted on the PubMed / MEDLINE and Scopus online databases to retrieve relevant articles. Additionally, the chapter «Ετεροφυλετική εφηβεία» of the book «ΕΡΜΑΦΡΟΔΙΤΙΣΜΟΣ, ΜΙΑ ΣΥΝΟΜΙΛΙΑ ΜΥΘΟΥ ΚΑΙ ΕΠΙΣΤΗΜΗΣ» was used. The literature of the above sources was also examined, and pertinent articles were retrieved and considered.

Results: The proper development of male individuals requires the proper functioning of all genes encoding the enzymes, which are necessary for the production of androgens. The sudden appearance of secondary characteristics of the opposite sex during puberty, described in these two myths, suggests that these are cases of Disorders of Sexual Differentiation (DSD), due to a functional deficiency of the enzymes that catalyze the final steps of steroidogenesis. The phenotype depends on the biological activity of the androgen accumulated, due to the enzyme deficiency. In the myth of Kaneas, marked virilization, signs of absence of uterus and ambiguous external genitalia are consistent with 5a reductase deficiency and testosterone accumulation. In

the myth of Leucippus, the milder virilization and the development of massive gland prior to transformation are compatible with 17β HSD deficiency and androstenedione accumulation.

Conclusion/Discussion: These distinct DSD entities not only inspired many ancient writers but concurrently led to the development of distinct, local religious cults.

EA 104 CUSHING SYNDROME DUE TO NODULAR ADRENAL HYPERPLASIA. A CASE REPORT

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Introduction: Cushing syndrome (CS) is a constellation of clinical signs and symptoms resulting from chronic exposure to excess cortisol. In adults the high cortisol levels are caused by Cushings disease (excess adrenocorticotropic hormone (ACTH) due to pituitary adenoma). The purpose of the current study is to present a rare case of ectopic ACTH secretion due to nodular adrenal hyperplasia.

Methods: Clinical examination, meticulous laboratory tests and imaging assessment were performed in a 45-year-old male with medical history of type 2 diabetes, hypertension, high blood cortisol levels and past tuberculosis, acute myocardial infarction and cardiogenic shock.

Results: The clinical examination revealed normal BMI, muscular weakness, edematous lower extremities, but absence of other typical characteristics of CS. The laboratory results showed hypokalemia, hypothyroidism, hyperglycemia, elevated cortisol and ACTH levels. Dexamethasone suppression tests indicated CS caused by ectopic ACTH secretion. Pituitary MRI and petrosal sinus catheterization confirmed ectopic ACTH secretion. To determine the source of ectopic ACTH secretion, thoracic and abdominal CT and PET/CT with F-FDG were performed. Bilateral adrenal nodular hyperplasia was found with predominant noduled in the left adrenal gland. The catheterization of adrenal veins with CRH stimulation indicated a high left/right gradient in cortisol secretion. Initiation of treatment with fluconazole was decided for 1-year to reduce the cortisol levels. Eventually, left adrenalectomy was performed that resulted in regression of the clinical and biochemical abnormalities. The biopsy confirmed the existence of nodular adrenal hyperplasia.

Conclusion/Discussion: CS due to ectopic ACTH secretion is rare and often consists a diagnostic challenge. In case of CS symptoms or signs, elevated cortisol and ACTH levels and absence of abnormal findings in pituitary MRI, ectopic ACTH secretion should be suspected. Localization of the ectopic ACTH source may be challenging. Fluconazole is an effective therapeutic alternative before surgical treatment.

EA 012 LIVING KIDNEY TRANSPLANTATION FROM DONORS WITH CHRONIC VIRAL CONDITIONS

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Introduction/Background: The shortage of kidney grafts from deceased donors has been one of the most crucial problems for patients with End Stage Chronic Kidney Disease (ESKD) under dialysis worldwide. In an attempt to broaden the kidney donor pool, grafts from donor groups with special characteristics are being utilized, more specifically from patients positive for chronic viral infections, such as HCV or HIV. The aim of this study is an attempt to investigate the safety, the effectiveness and the restrictions related to kidney transplantations from positive HCV or HIV donors.

Methods: The bibliography has been chosen based on the accuracy of data and the time of publication of the articles, for robust and recent data to be assured. Only articles published in the last 5 years have been included.

Results: HCV-positive donors are considered those with positive HCV-Abs and/or HCV-NAT test, whereas HIV-positive donors are those whose immunological tests reveal positive HIV-Abs. For patients mainly with ESKD research has shown that kidney transplantation has better results in comparison with dialysis. Kidney transplantation from an HCV+D to an HCV+R is performed routinely with the help of DAAs which leads to excellent post-op results. Additionally, transplantation between D+/R- is currently under research. The case of HIV is more complex, and only transplantation between D+/R+ is suggested. Even though antiretroviral therapy reduces the viral load to the point that is undetectable, the risk for re-infection from a different donor derived HIV strain is high, which further increases the risk for complications. Furthermore, increased rejection and mortality rates have been mentioned.

Conclusion/Discussion: In both situations many issues arise, such as the cost for antiretroviral therapy due to the high expenditure, the lack of awareness from the donor´s perspective and finally ethical issues.

EA 027 ANESTHESIA AND ANALGESIA FOR THE OPIOID USER - PATIENT, AN UPDATE APPROACH

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Introduction: On a daily basis, anesthesiologists are called upon to face a multitude of challenges regarding the anesthesia and analgesia of each patient. A special category are patients who are already on chronic opioid administration either for the needs of chronic pain, or are substance users, or are in addiction treatment. Medical and ethical need dictates that patients in this category have the same right to pain relief as other patients.

Methods-Data: The aim of this review was to gather information from data bases such as PubMed and Medline (keywords: "anesthesia", "analgesia", "opioid users", "substance use disorder") and to cross-reference them with the knowledge of physicians in order to conclude to the solutions to the challenge of dealing with the opioid patient-user. The review was completed on 10/01/2022.

Results: Regarding the management of acute postoperative pain in opioid patients, it is recommended to maintain the opioid maintenance dose and the additional required doses to be administered according to the postoperative needs. Difficulty also arises in calculating the doses invoked by substance users, due to the high tolerance and the need for very high doses to achieve the desired analgesia effect. In patients on methadone or detoxification, the combination of local analgesia and non-opioid analgesics is very useful. Finally, multimodal / balanced analgesia with combinations of drugs of different categories and in addition with modern, combined techniques can also achieve a significant benefit for the patient.

Conclusion-Discussion: The anesthesiologist is responsible for providing the best and safest care to all patients, including opioid addicts. In collaboration with the patient and the rest of the healthcare team, with the use of the lowest possible doses of opioids as well as the selection of other non-opioid analgesics, a satisfactory analgesic effect can be achieved as well as the gradual detoxification of the user.

Internal Pathology - Gastroenterology

EA 009 RECENT BREAKTHROUGHS IN THE EFFECT OF THE INTESTINAL MICROBIOME ON VARIOUS DISEASES

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Introduction/Background: The purpose of this presentation is to highlight the results of the most recent studies concerning the ways in which the microbial flora of the intestine is related to the appearance and outcome of Alzheimer's disease and other various conditions.

Methods: Extensive literature review has been conducted on the intestinal microbiome, its communication with the central nervous system, the intestine and human metabolism and its association with Alzheimer's disease and all other diseases with which it is most strongly associated. In this way, I made a collection of an increasing number of studies from 2016 until today, both in large samples of animal models and people, which project a complex connection of microbes with various organs of the human body.

Results: It seems that there is a gut-brain communication through biochemical products of the intestinal flora, autonomic nervous, neuroendocrine and immune system. The metabolic processes of microbes affect the inflammatory response in the intestine and the rest of the body to play a catalytic role in homeostasis and maintenance of intact intestinal epithelial barrier. All of these findings suggest possible mechanisms by which the microbiome may be involved in the pathogenesis of Alzheimer's disease, Parkinson's disease, autism, obesity, diabetes mellitus and idiopathic inflammatory bowel disease.

Conclusion/Discussion: In conclusion, as the research interest in the physiology of the microbiome grows, we are getting closer and closer to finding innovative treatment options such as the use of antibiotics, probiotics and stool transplants in pathological conditions that until recently were considered irrelevant. However, more data must be acquired in order to arrive at a comprehensive view of the function of intestinal flora, such as answering the question of whether the disorder of its composition is the cause or result of these pathological conditions. Only after this investigation we can apply new knowledge safely in a clinical context.

EA 090 VERY EARLY ONSET IBD AND THE CONTRIBUTION OF SPECIALIZED TREATMENT-SYSTEMATIC REVIEW

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Introduction: The inflammatory bowel disease (IBD) is a complex multifactorial disorder that is characterized from chronic recurrent bowel inflammation which is attributed to both genetic and environmental factors.

Very early onset IBD defines as IBD that occurs in children under 6 years of age and includes 3 entities: Crohn's disease, ulcerative colitis and undifferentiated colitis.

Methods-Data: This is a review of comparative studies on VEO IBD patients (<10 years old) with adolescent or adult IBD patients. Demographics, age of onset, phenotype, location, treatment, outcome and co-morbidities.

Results: In contrast to adult IBD, VEO IBD has a strong correlation with genetic background while it can also be correlated with primary immunodeficiencies. Meta-analyzes of comparative studies have highlighted the genetic diversity of IBD, as genetic sites and mutations were identified, characterizing what is referred to as monogenic IBD. A big increase is presented in the impact of IBD, which is mainly due to the increase in cases of very early onset IBD, at ages from a few months to 4 years old. The patients with VEO IBD usually show a more severe course of the disease with an increased frequency of patients needing surgery and a worse effect on growth and nutrition compared to older patients, they are also more likely to be resistant to conventional treatments and have a higher incidence of undifferentiated colitis.

Conclusion-Discussion : VEO PEDIATRIC IBD requires strategies using a more targeted treatment, which will respond to the heavier course of these patients. The introduction of biological agents, monoclonal antibodies against tumor necrosis factor (TNFα),
can lead to gradual healing of the intestinal mucosa. Now, the use of these biological agents modifies the natural course of the disease as well improvement of the symptoms but also of the development and quality of the life of the patient.

EA 019 MICROBIOME'S ROLE IN ALZHEIMER'S DISEASE PATHOGENESIS AND IN THE MANIFESTATION OF OTHER TYPES OF NEURODEGENERATIVE DISORDERS

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Introduction: Alzheimer's is without doubt 21st century's disease, with many studies suggesting the correlation between the disease and the microbiome. The latter is the largest microecosystem of the human body with more than 1014 bacteria and 2,000 species that interact not only with each other inside the intestine, but also with the brain, through paths and mechanisms that were unknown for many years. This study focuses on showcasing an -unknown till recently- parameter in Alzheimer's pathogenesis, as well as in other neurological disorders.

Methods and Information: A bibliographical review occurred through Pubmed, with articles written in the last five years and chosen regarding the topic.

Results: Based on this study, the most common characteristic patients with Alzheimer's disease face, is the dysbiosis of intestinal microbiome. Some disorders of the microbiome's homeostasis which led to a decline of specific bacterial populations have been noticed. Moreover, the pathophysiological mechanisms were suggested for the emergence of Alzheimer's including the intestinal inflammation, the deregulation of the hypothalamic-pituitary-adrenal axis (HPA), as well as the alteration on the level of the neurotransmitters in the brain and the disorder of the intestinal barrier and of the hematoencephalic barrier, which is the first to be blamed for the neuroinflammations and the pathological-anatomical decline in patients with Alzheimer's disease.

Discussion: The investigation of the human's microbiome world will undoubtedly become a field of extensive study in the years following, as it appears unlocking new paths and mechanisms unexplored for years. Meanwhile, the importance of a healthy nutrition in preventing neurodegenerative diseases is being established. Lastly, recognizing dysbiosis as a main pathogenic, as well as epigenetic factor, will allow a better diagnosis and subsequently a better treatment for many neurological diseases, that until now have been treated in a more conventional way.

EA 109 CLINICAL EVALUATION OF USTEKINUMAB TREATMENT IN ULCERATIVE COLITIS AND CROHN'S DISEASE PATIENTS IN A TERTIARY HOSPITAL

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Introduction: Ustekinumab is a fully human immunoglobulin G1 kappa monoclonal antibody that blocks the p40 subunit of IL-12 and IL-23 and prevents their interaction with their cell surface receptor and further cytokine activation. It is approved for treating Crohn's disease (CD) and moderate to severe ulcerative colitis (UC). Herein, we evaluate the experience of ustekinumab for the treatment of Crohn's disease (CD) and Ulcerative colitis (UC) in a tertiary Inflammatory bowel disease (IBD)clinic at Attiko University hospital.

Materials and Methods: We searched UR CARE registry for Crohn's disease (CD) and ulcerative colitis (UC) patients treated with ustekinumab during the last three years .We retrieved data regarding: short- and long-term term efficacy (response defines short-term efficacy and remission defines long-term efficacy) ,discontinuation of treatment, adverse events, and prior medication use.

Results: We detected 11 Crohn's disease and 7 Ulcerative colitis patients treated with ustekinumab. Two thirds of them were smokers, 16.67% had family history of inflammatory bowel disease and 22.22% of them had comorbidities. One third of them had surgery due to their disease, 61.11% have been in corticosteroids treatment while 8.33% used to be treated with a different biological agent in the past. Median time of follow up was 23 months, short- and long-term efficacy were 88,89% and 83%, respectively. 15 patients remained on treatment at the time of evaluation, while the rest discontinued treatment due to lack of response and one patient experienced adverse events(was still on treatment).

Conclusion/Discussion: Although the sample is small, ustekinumab treatment outcomes in our experience are similar to those reported in the literature for patients with inflammatory bowel disease.

EA 005 ASSOCIATION BETWEEN NON ALCOHOLIC FATTY LIVER DISEASE AND THE OCCURRENCE OF HEPATOCELLULAR CARCINOMA

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Introduction/Background: The continuous increase of the incidence of metabolic syndrome and obesity worldwide has led to the occurrence of non alcoholic fatty liver disease (NAFLD) in about a quarter of world

population. The purpose of this project is to investigate the relationship between NAFLD and the risk of presenting hepatocellular carcinoma.

Methods: Data from international bibliography related to studies, such as retrospective studies, clinical trials and meta-analyses relevant to the several aspects of the topic mentioned, were used. The selection of data was based on the relevance with the topic, the time of publication and the validity of information.

Results: a) Hepatocellular carcinoma may originate from underlying NAFLD even if it has not been preceded by severe fibrosis or cirrhosis. b) Obesity and Diabetes Mellitus through mechanisms such as the activation of oncogenic pathways, the mitochondrial dysfunction, the oxidative stress and even through the participation of micro-RNAs trigger carcinogenesis. c) Screening using upper abdominal ultrasound with or without alpha-feto-protein is considered important in all high-risk groups of patients with fatty liver disease. d) Dietary changes, exercise and even pharmacological treatment of metabolic syndrome and Diabetes Mellitus (statins, metformin) seem to reduce the risk of developing hepatocellular carcinoma among patients with NAFLD.

Conclusion/Discussion: According to studies NAFLD increases the risk of developing hepatocellular carcinoma and imposes the prevention of the latter using screening methods and by treating obesity and Diabetes Mellitus and by lifestyle change. More studies could contribute to better comprehension and knowledge of more effective ways to prevent hepatocellular carcinoma in patients with NAFLD.

EA 040 EMERGENCY MANAGEMENT OF DIABETIC KETOACIDOSIS IN PATIENTS WITH COVID-19 DISEASE - REVIEW

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Introduction/Background: Diabetes mellitus is a factor which contributes in poor outcome of COVID-19 disease and vice versa, the latter increases the risk of diabetic ketoacidosis. The coronavirus pandemic, both due to the disease itself and due to the pressure on the health-care system, requires reconsiderations in the management of patients with diabetic ketoacidosis, and generally diabetics who are also infected with the virus. The purpose of this project is to review the bibliography which describes the adaptations of already known methods of preventing and treating diabetic ketoacidosis to the pandemic conditions.

Methods: Articles (prospective studies, clinical trials, reviews) and guidelines of scientific organizations on the management of COVID-19 diabetic patients were searched through the Pubmed database.

Results: a) Proper glycemic control is recommended to prevent diabetic ketoacidosis in the already burdened patients with COVID-19 disease. Bibliography generally suggests discontinuation of SGLT-2 inhibitors and metformin, and suggests the efficacy of DPP-4 inhibitor regimens for the control of mild to moderate hyperglycemia. b) Standard management of diabetic ketoacidosis with intravenous fluids, insulin, potassium and bicarbonate solutions, requires modifications for the adaptation to COVID-19 disease circumstances due to its complications and the pressure on health-care system. c) The new electronic real-time Continuous

Glucose Monitoring Systems (rt-CGMS) appear to be quite reliable and effective for glycemic control, limitation of use of personal protective equipment, and reduction of staff exposure to the virus.

Conclusion/Discussion: Alternative management methods for diabetic ketoacidosis in the suffocating context of coronavirus and telemedicine promise better control and outcome of patients and decongestion of health-care system. Future studies are important so that the above can be widely applied in everyday medical practice.

EA 119 APPLICATION OF SELECTIVE INTERNAL RADIOTHERAPY WITH YTTRIUM-90 IN THE TREATMENT OF HEPATOCELLULAR CARCINOMA AND SECONDARY LIVER CANCERS

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Introduction: Hepatocellular carcinoma is a leading death cause of cancer worldwide, while the liver is the main metastasis point of colorectal cancer. The present study presents the role of selective internal radiotherapy with Yttrium-90 studying the therapeutic benefit and effectiveness in cases of unresectable hepatocellular carcinoma or metastatic in liver colorectal cancer.

Methods - Data: For the present study, a review of the literature was conducted in the PubMed/Medline database, with the aim of finding articles related to the use of selective internal radiotherapy with Yttrium-90 in the treatment of hepatocellular carcinoma and metastatic in the liver colorectal cancer. These articles published in English, included people.

Results: Through the bibliographic data, the feasibility of selective internal radiotherapy with Yttrium-90 in the treatment of metastatic in the liver colorectal cancer after chemotherapy is highlighted. On the contrary, the simultaneous application of the two therapies does not seem to increase the survival of patients compared to chemotherapy as a monotherapy, while the need for surgical removal of the malignancies remains. Furthermore, it appears that this technique increases the toxicity rates and side effects with hematological disorders being the main complication. In the case of hepatocellular carcinoma, the technique's effectiveness is comparable to intraarterial chemoembolism for intermediate-stage lesions and to Sorafenib for late-stage lesions, and it also applies to patients, where conventional methods show limitations, as in pylaia vein thrombosis.

Conclusions/Discussion: The results of this study reveal the possible therapeutic applications of selective internal radiotherapy with Yttrium-90 in the treatment of metastatic in the liver colorectal cancer, as well as the various stages of hepatocellular carcinoma. Finally, the need to carry out further studies on the effectiveness of the technique in specific patient populations or as a stabilization treatment after chemotherapy is underlined.

Neurology

EA 010 MECHANISMS OF DNA DAMAGE RESPONSE IN NEUTRAL STEM CELLS OF THE DEVELOPING BRAIN, AFTER EXPOSURE TO IONIZING RADIATION

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Introduction/Background: Ionizing Radiation (IR) used to eradicate cancer tumors, affects the surrounding healthy tissues as well. Especially, irradiation to the brain and particularly to the developing one, causes damage in the neural stem cells in the area of irradiation. However, stem cell response to ionizing radiation is inadequately understood at the molecular mechanistic level. The objective of the current work was the study of the balance between proliferation and apoptosis of neural progenitors cells after irradiation.

Methods: Wild type mouse embryos at the embryonic day of E11.5 and E14.5 were irradiated, with the doses 0.5 and 5Gy. Embryos' brains were isolated 1 and 6 hours after irradiation and fixated. Immunofluorescence experiments were conducted in coronal sections and confocal fluorescent microscopy followed. Quantification and statistical analysis of the results was carried out.

Results: At both embryonic stages E11.5- E14.5, 1 hour post irradiation, neural progenitors cells which exhibited double-strand brakes (DSBs) in their DNA (γH2AX marker), increased significantly in a dose-dependent way. Furthermore, at the same time, cells did not activate apoptosis (CC3 quantification), while 6 hours later, at the early stage, increased apoptosis was observed. Finally, after the dose of 0.5Gy, at both embryonic stages, neural progenitor cells ceased their cell cycle and accumulated at G2 phase (scattered motif of phoshorylated histone 3-pH3). On the contrary, after the dose of 5Gy, 1 hour post irradiation, at the stage E14.5, cells did not activate the G2/M checkpoint, like the early neural stem cells did.

Conclusion/Discussion: Ionizing radiation, which is used therapeutically for the eradication of cancer cells, induces DSBs in the DNA of the embryonic neural stem cells in a dose-dependent way. Cells respond to the DSBs by ceasing their cell cycle and activating the cell cycle checkpoints in order to repair the damage. Cells that fail to repair the damage, undergo apoptosis a few hours later.

EA 028 SPEECH, LANGUAGE AND SWALLOWING DISORDERS IN ADULT POPULATION WITH BRAIN CANCER: THE ROLE OF SPEECH AND LANGUAGE PATHOLOGIST

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Introduction: The present study is a review on communication and swallowing disorders in the adult population with brain cancer. The main question is the definition of the role of the science of speech pathology in the functional rehabilitation of brain cancer.

Method: The soliciting review has been contacted in specific database (PubMed). The data selection criteria was the study of adult patients who suffered from primary malignant brain neoplasm ,as well as, the effects of the neoplasm and/or treatment on communication and swallowing.

Results: In terms of speech level, the appearance of brain cancer, can cause dysarthria and/or apraxia of speech. Dysarthria is caused by the destruction of speech motor formation pathway. The intervention can be either behavioral, based on exercises which will modify the speech production and the use of hedging techniques, or kinetics with the use of oral-facial exercises. Dyspraxia, affects the motor programming of speech. The intervention focuses on articulation and prosody. As for the level of language, a characteristic disorder is aphasia which manifests itself, due to malignancy or surgical resection in the form of expressive, anomic or receptive. Rehabilitation especially in chronic patients, includes group therapy, which aims at social interaction and functionality. Finally, swallowing disorders can be triggered either from damage to the swallowing brain pathway, or from cognitive deficits , as a secondary symptom. The problems may be due to neoplasm itself, or to the treatment method. Radiation can often cause malfunctions as well. The intervention program includes posture changes, modification of food and diet as well as muscle exercises.

Conclusion-Discussion: Brain malignancies greatly affect the subsystems of communication and swallowing. The quality of adult patients life , is severely limited. Therefore, the role of speech and language pathologists in the interdisciplinary team is considered absolutely necessary for patients, in order to help them reintegrate into social activities and be communicatively functional.

EA 018 1st SUCCESSFUL THROMBECTOMY IN GREECE OF A PATIENT WITH VENOUS SINUS THROMBOSIS

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Case presentation/Introduction: We present the case of a 52-year-old woman, who presented to us with deteriorating headache, confusion and drowsiness for two days. The Neurological exam showed paralysis of the right lower limb and sluggishness.

Methods: Of great importance is the medical history of the patient. She suffers from Paroxysmal nocturnal hemoglobinuria (PNH). The past two years she presented Budd- Chiari syndrome, deep venous thrombosis and pulmonary embolism. The patient was stable with no recurrences for one year, due to the help of the monoclonal antibody eculizumab (SOLIRIS). Sadly, she tested positive in SARS-COV-2, which resulted to her hospitalization and the interruption of eculizumab. She soon presented small infracts resulting in an epileptic crisis. The workouts showed Venous Sinus Thrombosis, which were successfully treated with Thrombectomy.

Results/Discussion: We analyze the pathogenic factors of the Venous Sinus Thrombosis, the contribution of thrombectomy to the rescue of the patient and the hematological interventions that supported her in the long period of her recovery.

EA 004 THE GUT-BRAIN AXIS; THE GUT MICROBIOME AND ITS ROLE IN NEUROLOGICAL DISEASES

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Introduction/Background: The human organism consists of more microbial than human cells. The role of microbiota in various physiological activities, including in the immune system, has been well established previously. The 'gut–brain axis' refers to the connections that facilitate bidirectional communication between gut bacteria and the brain, and is crucial in maintaining homeostasis of the gastrointestinal, central nervous and microbial systems of animals.

Methods: We searched PubMed for reviews and original studies, regarding the gut microbiome and its effect on neurological diseases, published in the last 5 years in English. Key-words: "gut microbiota" and "neurological disorders".

Results*:* The gut microbiome modulates the gut–brain axis through multiple direct and indirect signaling via chemical transmitters, neuronal pathways and the immune system; thus, appearing to be playing a crucial role in neurodevelopment and aging. Dysbiosis, i.e. a disruption to the microbiota homeostasis, can result in host immune activation, increased permeability of the blood-brain-barrier, neuroinflammation and impaired functionality of microglia and hippocampal neurogenesis. Various studies implicate gut microbiome involvement in the pathogenesis of Multiple Sclerosis, Parkinson's, chronic pain, Alzheimer's and other neurological diseases. Such findings have provoked hypotheses that microbiome-altering interventions, i.e. specific diets, the administration of probiotics, prebiotics, antibiotics and fecal microbiota transplantation, could translate into therapies for neurological disorders.

Conclusion/Discussion: The study of the gut-brain axis appears as a promising field, though the existing data should be treated with caution, as they derive from animal or small-scale human studies, and prove correlation rather than a causative association. Large-scale longitudinal studies need to be executed with emphasis on interventional approaches; in order for scientists to conclude if and to what extent gut microbiota triggers or hinders neurological diseases and to develop novel therapeutic strategies.

EA 025 CLINICAL PRESENTATION, DIFFICULTIES IN DIAGNOSIS AND MANAGEMENT OF CEREBELLAR STROKES

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Introduction: Cerebellar stroke accounts for approximately 2% to 3% of all strokes. Patients with cerebellar infarction often present with non-specific symptoms, such as dizziness, nausea, vomiting, and headache, which makes very difficult their early diagnosis, but also they present symptoms depending on the cerebral artery that is damaged.

Methods: For the present study, a literature research was conducted in Pubmed from which articles from the past 15 years were selected. The articles were mainly related to the clinical presentation and the difficulties in diagnosing cerebellar strokes, the means by which their diagnosis could be facilitated and lastly what their immediate management includes.

Results: In addition to the non-specific symptoms that mentioned before, infarcts in the superior cerebellar artery, anterior inferior cerebellar artery and posterior inferior cerebellar artery can cause symptoms such as

Horner syndrome, gait disorders, ataxia, dysarthria etc. These are the ones that raise the strongest suspicion of the existence of cerebellar strokes. If their existence is suspected, it can be confirmed by computerized tomography and magnetic resonance imaging. It is important to note that computerized tomography is often non-diagnostic, especially in the early stages, and also because of the artifacts caused by the bones of the base of the skull. This is the reason that MRI is preferred for the diagnosis of cerebellar strokes. Lastly, their management is based on particular steps of an algorithm.

Conclusion: Cerebellar infarction is relatively uncommon, but clinicians need to be mindful of this diagnosis in patients presenting with common symptoms. Careful neurologic examination must be performed in these patients, looking for signs of cerebellar dysfunction. Mass effect resulting in brain stem displacement and obstructive hydrocephalus are life-threatening complications that must be treated promptly.

EA 017 HOW MUCH DO WE KNOW ABOUT AUTOIMMUNE LIMBIC ENCEPHALITIS?

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Introduction: Autoimmune limbic encephalitis (ALE) appears when the immune system is activated against structures of the brain's limbic system. Patients develop a variety of symptoms such as cognitive impairment, psychiatric symptoms, epileptic crisis etc. Limbic encephalitis can arise, also, by paraneoplastic mechanisms. Both laboratory tests and imaging contribute to the diagnosis. The cornerstone of the therapy are immunomodulatory drugs.

Methods: This oral presentation is based on a real clinical case of a patient with ALE who was admitted to the neurology clinic of Patra's University Hospital. Specifically, a 16-year old teenage girl presented with headache, tonic - clonic seizures, disorientation and auditory hallucinations. CSF showed pleocytosis and MRI hyperintense signal of the temporal lobes. Anti-NMDA receptor antibodies were found in blood and CSF.

Results: The girl was diagnosed with ALE. In ALE structures of the limbic system such as hippocampus and amygdala are affected. The limbic system is responsible for the emotional responses, controls endocrine glands and contains circuits that regulate the functions of memory and learning. Common symptoms of ALE are epileptic crisis, behavioral defects, disorientation, memory impairment, psychiatric symptoms etc. Basic diagnostic tools are CSF analysis, which usually shows lymphocytosis, MRI and PET studies, which show hyperintense signal and hypermetabolism in the temporal lobes respectively and the detection of specific autoantibodies in blood and CSF. The treatment of ALE is based on immunomodulatory drugs, such as corticosteroids, IVIG or plasma exchange. Therapy of paraneoplastic ALE includes tumor resection and/or oncological treatment.

Conclusion: Through the presentation of the clinical case the anatomy and function of brain's limbic system are analysed. Consequently the diagnostic and therapeutic procedure of ALE are developed.

EA 059 AN INTERESTING CASE REPORT OF NEUROPSYCHIATRIC LUPUS

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Introduction/Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease with possible manifestations from all systems of the human body, including the central nervous system. Neuropsychiatric symptoms are common in patients with SLE but are not always due to the underlying disease. Early diagnosis and appropriate treatment will prevent further neurological and psychiatric complications.

Case Definition: A 45-year-old woman came to the Emergency Department due to severe headache and posterior bulb pain from 48 hours, as well as the appearance of diplopia from 3 hours. A few months ago, she visited a neurologist due to recent memory impairment and a psychiatrist for aggression and hallucinations. Clinically, there is a butterfly-shaped rash on the face, a mild erythema with a geographical distribution, mainly in the upper extremities and milder in the back and neck. Abductor nerve palsy on the left, mild arthritis of small joints and multiple posterior cervical lymph nodes. During her hospitalization, she underwent an extensive examination with hematological, biochemical and microbiological examinations, lumbar puncture and MRI of the brain. Despite the blunt findings from the CSF and the MRI scan, the immunoassay showed positive antibodies such as ANA and anti-RNP/Sm. The final diagnosis was SLE with CNS involvement and manifestations of psychotic syndrome and cranial neuropathy. The patient received strong immunosuppressive and symptomatic treatment and showed significant improvement. She came out in good general condition and has been monitored regularly ever since.

Conclusion/Discussion: Neuropsychiatric lupus represents one of the most complex aspects of SLE and is characterized by a heterogeneity of clinical phenotypes such as headache, psychiatric symptoms and peripheral neuropathy. The primary goal is to distinguish between SLE-related neuropsychiatric symptoms and not. Due to the absence of specific diagnostic findings, there is an unmet need to discover more accurate neuroimaging methods and laboratory biomarkers for diagnosis.

Oncology

EA 131 ANTIBODY-DRUG CONJUGATES: FUNCTIONAL PRINCIPLES AND APPLICATIONS

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Introduction: Antibody-Drug Conjugates (ADCs) are tripartite compounds comprising a monoclonal antibody, a chemotherapeutic drug and a linker that connects them. After their administration, these agents circulate as inactive assemblies which are eventually catabolized via endogenous cleavage mechanisms at the intracellular compartment of the targeted cell. In this way they selectively deliver the tethered drug, averting systemic toxicity and improving the therapeutic index.

Methods-Data: The present review explores recent advances of ADCs through thorough examination of the related literature in the PubMed database and in medical journals of international outreach via key-words. We particularly focus on recent randomized prospective trials that highlight patient groups in which clinically beneficial results were observed.

Results: The therapeutic efficacy of ADCs necessitates meticulous selection of the target antigen and the ADC's components. Regarding the target antigen, it should be characterized by homogenous and cancer-specific expression as well as rapid endocytosis. The antibody should be characterized by high affinity and selectivity for the target antigen, low immunogenicity and favorable pharmacokinetic profile. Bispecific antibodies comprise one of the latest advancements on the field, targeting distinct antigens and improving the safety profile. Regarding the tethered drug, it is a super-toxic chemotherapeutic that has cell destructing potential in subnanomolar concentration and cannot be tolerated if administered unconjugated. The 11 FDA-approved ADCs have oncological implications, however, preliminary steps out of the oncological sphere are made as clinical trials explore the ADC technology for infectious and rheumatological diseases. An ever increasing number of clinical trials report positive outcomes for non-approved implications.

Conclusion: Capitalizing on the extensive research of last decade, ADCs are entering into a phase of exponential growth. This is supported by the fact that 7 out of 11 commercially available agents were approved during the last 3 years. Their clinical trial investigation outside the oncological sphere reports positive outcomes. Promising strategies such as bispecific antibodies and dual-drug ADCs are expected to overcome limitations of first-generation ADCs, rendering them as first line options in oncology and beyond"

EA 115 CELLULAR SENESCENCE AND CANCER

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Introduction: Our study concerns the potential relation between cellular senescence and cancer.

Methods: To investigate the above issue, recent original articles from reliable research centers were reviewed. Inclusion criteria were the date of the original article and their citation index. After the thorough examination of the chosen references, we proceeded to the overview of the data in order to redact a review article.

Results: Our survey focused on cellular senescence induction mechanisms and their relation to carcinogenesis by DNA Damage Response Pathway (DDR), Oncogene induced senescence (OIS) and Phosphatase and tensin homolog (PTEN). Moreover, we referred to the Senescence Associated Secretory Phenotype (SASP), whose impact on cancer tissues has been compared to a double-edged sword due to its ability to function as either a barrier or an inductor of cancer growth.Furthermore, regarding the immune system, the destruction of senescent cancer cells through immunosurveillance inhibits the relapse and spread of the disease. However, the immune cells themselves may also experience senescence as a normal procedure, which might increase the risk of tumorigenesis, though. Triggering cellular senescence is the underlying mechanism among many types of anticancer therapies, including both chemotherapies and radiation therapies, with mixed results concerning their efficacy and side effects. Microbiota is an important factor as well, since it can affect the multiplication and apoptosis of cancer cells, the senescence mechanism itself and the metabolism levels in direct and indirect ways.

Conclusions: In conclusion, senescence and cancer appear to strongly interact with each other. Thus, we consider this connection to be a scientific field of promising future research, aiming towards the development of new anticancer therapies of maximized benefit and minimized harm due to cellular senescence.

EA 021 THE ROLE OF LIQUID BIOPSY IN THE MANAGEMENT OF CANCER OF UNKNOWN PRIMARY ORIGIN

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Introduction: Liquid biopsy is a repeatable minimally invasive technique which includes analysis of circulating cells and their components in the bloodstream and other body fluids. Cancer of Unknown Primary (CUP) represents 1-2% of total cancer diagnoses and is an aggressive metastatic neoplasm with an unfavourable prognosis, the primary site of which remains unknown after thorough diagnostic work-up. Given the limited availability of biological specimens for histologic and molecular examination in CUP and due to the heterogeneity among tumor sites, the aim of this review is to demonstrate the efficiency of liquid biopsy in overcoming these diagnostic and therapeutic challenges.

Methods:A search of the literature was performed on Pubmed (MEDLINE), Scopus and Google Scholar databases, using the keywords 'liquid biopsy', 'cancer of unknown primary' and the operator AND. Literature from the references of the resulting articles was also included.

Results: Circulating tumor cells (CTCs) are detected in about half of CUP patients and in well-differentiated tumors specific immunohistochemical biomarkers can indicate their tissue of origin. Next-generation sequencing of cell-free and tumor-circulating DNA (cfDNA, ctDNA) can also reveal the primary site, the genetic profile of the tumor and the occurrence of therapy-resistance mutations during follow-up. In 66% of patients with CUP, cfDNA mutations have been detected in signaling pathways, for most of which targeted therapy with benefit to such patients is available. Finally, a reduction in CTC count is indicative of response to chemotherapy.

Conclusion: In the era of tumor-agnostic therapies, knowing the molecular profile seems to be more crucial than the tumor site itself. Liquid biopsy can be used supplementarily for the identification of the primary site, guiding treatment decisions and follow-up in CUP. Before its wide application, there is a need for further studies on CUP patients and more sensitive molecular testing techniques.

EA 023 THE USE OF ''PORT'' CATHETERS IN PATIENTS WITH CANCER DURING THE CONID-19 PANDEMIC: A STUDY AT A PERIPHERAL HOSPITAL

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Introduction: For patients with cancer, venous access is very important. The insertion of "PORT" catheters has helped to overcome the obstacle of multiple venipunctures. Aim of this study is to study the increase of the use of "PORT" catheters in cancer patients during the pandemic, at a tertiary peripheral hospital.

Methods-Data: This is a prospective observational study. The chosen patients were patients with cancer who required the insertion of a "PORT" catheter at the A' university clinic of surgery at the University Hospital of Alexandroupolis from January 2020 to January 2022.

Results: During this period, "PORT" catheters were inserted in 64 patients from which 30(46,8%) were male and 34(46,8%) were female. The average age of these patients was 45,5. The underlying malignancies were solid in almost all patients(98,4%) with one exception of a patient with an unidentified malignancy(1,6%). Among the solid malignancies, colonic cancer was the most common(33,3%). Complications were reported in 4 patients after the insertion of the catheter and they were as follows: 2(3,2%) developed an infection at the port insertion site, 1(1,6%) pneumothorax right after the insertion and 1(1,6%) rejected the catheter.

Conclusion-Discussion: During the pandemic, the difficulties that a patient with cancer faces are way bigger than the ones before COVID-19 period. Surgeries get postponed or delayed which leads more patients to chemotherapy. The use of "PORT" catheters makes the experience of chemotherapy significantly easier for these patients and as this study shows it can be implemented in a wide range of age groups and diseases.

EA 094 THE EFFECT OF INFORMATION ON PAIN DURING PROSTATE BIOPSY

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Introduction: Pain is a sensation with a strong subjective element and is a component of factors that do not necessarily relate to its generative cause. Therefore, the information - the precondition for an impending painful process is likely to affect the reported pain by changing its subjective part. During the prostate biopsy procedure, some degree of discomfort-pain is often reported, but with a different intensity from each person. We therefore conducted an experimental clinical study to investigate the effect of information on reported pain in patients undergoing prostate biopsy.

Methods: Initially, a research questionnaire (Case Report Form, CRF) was formed, with the help of which the necessary information of each participant was obtained, as well as an information leaflet for the examination

process. Applying a simple randomization (ratio ""1 to 1"") was informed about the steps of the biopsy half of the individuals. At the end of the biopsy, a pain scale (Visual Scale of Pain) was used to accurately determine the pain experienced by each patient. Finally, the data analysis was performed through the statistical package ""spss"".

Results: There was a significant difference in reported unit pain between the control group and the experimental group, with lower pain expressed by those informed before the biopsy. At the same time, we take into account the possible under-reporting of pain by all participants due to social embarrassment, but also the variation of reports on individual characteristics of each individual.

Conclusion / Discussion: Informing the examinee about the steps of the prostate biopsy alleviates the reported pain, affecting its subjective element. Generalizing the above position we conclude that probably informing people about the exact procedure of impending painful medical operations will limit the degree of pain they experience and report.

EA 034 RADIOIODINE THERAPY : THYROID CANCER AND EFFECTS ON ONGOING PREGNANCY

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Introduction: Our study describes the treatment of thyroid cancer with radioiodine and its effects on ongoing pregnancy.

Methods-Data: This treatment is based on selective absorption of iodine by the thyroid gland and applied after thyroidectomy in patients, to destroy remaining cancer cells. Before the treatment starts, we have to ensure if the patient meets certain criteria regarding the tumor, while the levels of thyroid hormones are regulated to the desired ones. Radioactive I-131 is administered orally as sodium iodine, either in gelatin capsules or as an oral solution, and its action is based on the simultaneous emission of β- and γ-radiation, for treatment and diagnosis, respectively, in predetermined doses, so that to avoid side effects in other tissues that have increased iodine intake (such as salivary glands). If during or after the start of the treatment an ongoing pregnancy is discovered, then the treatment plan should be re-evaluated and the parameters that can affect the fetus must be taken into account.

Results: It has been found that this radiopharmaceutical (I-131) can penetrate the placenta (internal radiation) at a rate dependent from the week of pregnancy, and deposited in the thyroid gland of the fetus. However, it has been shown that the fetus can also be irradiated from the tissues around the uterus, such as the bladder (external irradiation). The effects on the fetus also depend on the trimester of pregnancy. The decision to terminate the pregnancy is determined from the dose received by the fetus.
Conclusion-Discussion: Finally, it was found in experimental animals that the administration of stable iodine can inhibit fetal uptake, in certain doses, depending on the mother's body weight, paving the way for improved radioprotective measures for pregnant women who need to decide whether to undergo treatment.

EA 033 THE EMERGING ROLE OF PET IN GLIOMAS' MANAGEMENT

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Introduction: Positron Emission Tomography (PET) provides regional quantitative information related to brain blood flow and brain metabolism in pathological conditions, like gliomas. The query to be answered is the creation of radiopharmaceuticals able to manage glioma patients
To review the latest published literature on the use of PET and its radiopharmaceuticals regarding the management of patients with gliomas

Methods-Data: To review the latest published literature on the use of PET and its radiopharmaceuticals regarding the management of patients with gliomas.
A PubMed research was conducted to identify all relevant publications related to the diagnostic and prognostic value of PET in estimating the tumor's location, size and biological activity. Apart from the online research, relevant references where traced in bibliography.

Results: Combinational uses of PET tracers are expected to contribute to differential diagnosis, prognosis, treatment and care based on individual glioma patients' needs based on functional , metabolic and molecular imaging (Personalised Medicine).

Conclusion-Discussion: This literature research suggests that the non-invasive PET allows the study of metabolic and molecular glioma pathways with high sensitivity and specificity.

Orthopaedics

EA 016 THE ROLE OF ROBOTIC ASSISTED SPINE SURGERY IN INJURY MANAGEMENT

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Introduction: Spine injuries, whether are sports associated or not, can lead in a serious downgrade of the quality of the patients lives or even to the end of them. Therefore, the best possible management of those is vital. Robotic assisted (RA) spine surgery is a very useful tool in the hands of the surgeons even though it is still a rather new and rapid advancing technology. The main goal of this oral announcement is the presentation of the applications of this technology in the management of spinal injuries.

Methods/Data: Bibliographic research of scientific publications in PubMed. The research was focused on articles that were written after 2012.
The search was conducted as follows:
("Robotic Surgical Procedures"[Mesh] OR “robotic surger*”[tw]) AND ("Spine"[Mesh] OR "Spinal Cord Injuries"[Mesh] OR "Spinal Cord"[Mesh] OR "Spinal Cord Diseases"[Mesh] OR "Lumbar Vertebrae"[Mesh] OR spine[tw] OR “spinal cord”[tw]) AND ("Athletic Injuries"[Mesh] OR "Wounds and Injuries"[Mesh] OR "injuries" [Subheading] OR "Trauma, Nervous System"[Mesh] OR “sports injur*”[tw] OR “sports trauma”[tw] OR “athletic injur*”[tw] OR “athletic trauma” [tw] OR “injur*”[tw] OR “trauma”[tw])
Article type: Review, systematic review, clinical trial

Results: After meticulous research, 10 articles were chosen whose data is presented briefly in our free oral announcement. Robotic assisted (RA) spine surgery is described as a rapid advancing technique in the management of spine injuries. It includes a short statement of anatomical structures and physiology, the technique, the epidemiology, the clinical results and some thoughts regarding the broad use of this technique in the future. RA spine surgeries have greater precision in material placement and ensure less radiation exposure for the patients with a small increase in intraoperative time.

Conclusion/Discussion:Summarizing, RA spine surgery is a very promising technique for achieving better accuracy in screw placement and limiting the radiation exposure of the patients. The optimization of the method and more research are required for the improvement of its effectiveness and its broad use in the future.

EA 051 TENDON TRANSFER: PRINCIPLES AND APPLICATIONS

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Introduction: Tendon transfer consists of the release of either a terminal or proximal tendon insertion from a functional muscle-tendon unit and its reinsertion distally, while preserving its neurovascular supply in order

to restore lost or deficient muscle action. It is applied in congenital or acquired, peripheral or central neural lesions, trauma, or degeneration of the muscle-tendon unit.

Methods-Data: In the present study we searched the PubMed and GoogleScolar databases for publications on the principles and applications of tendon transfer in clinical practice. We also checked the sources of the selected articles to find relevant information.

Results: Concerning tendon transfer, in order to achieve maximum efficiency, certain conditions should be followed. Muscle strength should be 4-5 on the Lovett scale, the relevant muscle should fulfill only one function and should have synergic action with the muscle group of the joint to be repaired. The excursion of the transferred muscle has to be close to the muscle to be replaced. It is essential that the gain from the transfer outweighs the functional loss of the donor's muscle. In order to achieve the best possible motility of the damaged joint some preoperative-intraoperative-postoperative measures must be taken (ex. full passive joint movement, rehabilitation program). Fixation of the transferred tendon, according to its force, moment arm and course, can be onto bone or another tendon. Characteristic clinical applications of the procedure are the transfer of tibialis posterior for drop-foot restoration, lower trapezius transfer for functional repair of posterosuperior rotator cuff tears and scapula alata treatment with the transfer of levator scapulae, rhomboid minor and major muscles.

Conclusion-Discussion: In conclusion, tendon transfer as a therapeutic technique achieves motor function of the transferred muscle in order to restore the function of the target joint. However, due to the high cost and technical challenges alternatives such as neural repair, tenodesis or arthrodesis, should be considered.

EA 071 THE IMPACT OF UNIVERSITY DISTANCE LEARNING ON MUSCULOSKELETAL HEALTH

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Introduction: Like in many institutions worldwide, educational activities in Greek universities were remodelled for remote delivery, due to the COVID-19 pandemic. Furthermore, during the lockdown, outdoor activities and physical exercise were limited, leading to a sedentary lifestyle for many students.

Methods-Data: The current study was designed to assess the effects of the two-year distance learning on the physical activity and musculoskeletal health of university students. An online questionnaire, covering questions on online education routines, participants' musculoskeletal health and physical activity, was distributed through university communication platforms.

Results: 1366 students (65% female, 35% male; mean age: 20.6) from 11 universities took part in the survey. The most common sites of reported pain were neck (59.5%), shoulders (22.8%), back (29%) and low back (66.7%). The percentage of female students reporting pain in all the aforementioned sites was statistically significantly larger than male students ($p<0.05$). Preliminary analysis showed that musculoskeletal pain was significantly increased during the lockdown, according to the VAS pain scale [Before: 2.7 (1.6); During: 5.5 (2.2), $p<0.001$). Everyday pain was referred by significantly more students during lockdown (4.5% vs 36.1 %,

p<0.001), while the percentage of asymptomatic students was significantly decreased (40.5% vs 6.1%, p<0.001). Concerning physical activity, the percentage of students who didn't exercise at all significantly increased during the lockdown (15.1% vs 23.2%, p<0.001). Statistically, significantly more male students reduced their physical activity compared to their female counterparts (51% vs 43%, p<0.05). Distance learning and total screen time were positively correlated with VAS pain scores. On the contrary, an increased frequency of ergonomic position, walking intervals and physical activity was associated with significantly decreased VAS pain scores.

Conclusion-Discussion: Distance learning and limited physical activity led to a significant increase in musculoskeletal pain of university students during the lockdown, raising concern for the effects of virtual education on musculoskeletal health. Interventions to encourage physical activity and healthy studying habits should be developed.

EA 127 FLOATING ELBOW TYPE INJURIES WITH ARTICULAR DISRUPTION: A CASE SERIES

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Aim: Typically floating elbow injuries are considered to be the concomitant ipsilateral fracture of the humeral shaft and the forearm. Nowadays the definition has been extended to include the intra-articular fractures of the humerus and the elbow. Our aim is to present the treatment of these complex injuries and the results from a series of 4 patients.

Background: A "floating elbow" type injury which is a concomitant ipsilateral fracture of the humerus and the forearm with an articular disruption requires an anatomic reduction of the fractures, in order to ensure a better range of motion in the elbow without stiffness. Different combinations of those fractures exist, although the ones with the involvement of the elbow joint are extremely rare.

Method: In the period 2019-2020, 4 cases with ipsilateral fractures of the humerus and the elbow, due to high energy trauma, were treated in our clinic. The mean age of patients was 44 (range, 33-69) years, and the mean postoperative follow-up was 15 (range, 12-20) months. Two patients sustained a distal humeral fracture and one patient with a fracture of the proximal humerus underwent internal fixation, while the fourth patient with a comminuted fracture of the proximal humerus extending to mid-shaft required a shoulder hemiarthroplasty. The elbow fractures were all comminuted at the olecranon and were treated with an anatomical olecranon plate. One of the patients presented preoperatively with paralysis of the radial nerve, which was resolved after the osteosynthesis of the fractures. Firstly the osteosynthesis of the olecranon was performed and then the operation on the shoulder.

Results: Radiological signs of fracture healing were evident at 12 (range, 10-14) weeks postoperatively. At the last follow-up, the patients had a satisfactory range of motion in the shoulder (anterior flexion 163o, abduction 153o, external rotation 67o), and an elbow extension of 14o was found on average. The largest extent deficit (mean, 17.5o) was measured in the 2 patients with ipsilateral distal humeral fracture. According to the Mayo Elbow Performance Score, the results were found to be very good with a score of 82.

Conclusions: The ipsilateral humerus and elbow fractures are rare and complex fractures, and require good surgical experience. When the fracture of the humerus is located at the distal end it seems to be a negative prognostic factor for the range of motion of the elbow.

EA 061 RESISTANCE TRAINING AND MUSCULOSKELETAL INJURIES

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Introduction/Background: Undoubtedly, resistance training is a very important tool for a physician as it has to offer significant benefits in a huge range of conditions. Like any other type of exercise, however, it increases the likelihood of specific injuries compared to the general population. Therefore, we have to recognize these conditions and treat them so that trainee can return to his training plan and benefit from it.

Methods: After an extensive search of the existing databases, we collected the most common injuries related to the musculoskeletal system and organized them based on the anatomical area.

Results: According to our findings, the biggest victims of this type of training are the soft tissues of the musculoskeletal system, without, however, leaving the skeleton unaffected. The main anatomical areas of concern for health professionals are the large joints, most often the shoulder and the knee. In conclusion, resistance training is as important factor for the good health of the musculoskeletal system as it results in its strengthening and, therefore, the prevention of injuries. At the same time, however, it can lead to a variety of injuries which are important to be properly diagnosed and treated.

Conclusion/Discussion: An organized and responsible health system chooses to prepare to be able to deal with such injuries as it recognizes that the benefits of this training outweigh the harm it can cause to the general population.

Otorhinolaryngology - Ophthalmology

EA 129 COVID-19 AND OCULAR MANIFESTATIONS; A SYSTEMATIC REVIEW

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Introduction: The coronavirus that causes severe acute respiratory syndrome type 2 (SARS-CoV-2), is a virus that causes COVID-19. Research has shown that its transmission occurs mainly through the respiratory tract from droplets; However, some studies suggest that it is possible to infect through the conjunctiva; The purpose of this systematic literature review is to collect and list the ocular manifestations and effects of the disease, as well as to summarise the available data on the importance of conjunctiva in the transmission of the virus.

Methods/Data: An online search was carried out at the Pubmed and Cohrane library databases for studies published until January 2022 and related to the occurrence of ophthalmics symptoms in Covid-19 patients.

Results: Conjunctivitis was reported as a manifestation of Covid-19 disease (0.8%-31.6%). Patients usually have bilateral conjunctiva hyperemia, echimoses follicular (follicular) reaction of the tarsal conjunctiva, epiphora, watery secretion, mild edema of the eyelids and enlarged pre auricular and submandibular lymph nodes. RNA virus isolated in patients' tears. Currently, there are no reports of blurred vision, or loss of vision. The exact pathogenetic mechanisms of conjunctiva infection are still unknown. The ocular surface could be a gateway through exposure to droplets or hand-eye contact. The ACE-2 receptor, along with the enzyme TMPRSS2, allows the access of the virus to the host cell; The presence of these receptors in ophthalmics surface is controversial. One study showed, through immunohistochemical analysis, that there is a distinct presence of the ACE-2 receptor in the conjunctiva, filter and cornea.
Synopsis/Discussion: Conjunctivitis is a common ocular manifestation of the disease, and ophthalmologists can be the first professionals to rate a Covid-19 patient. Special attention is needed when examining patients with signs and symptoms of viral conjunctivitis; It is necessary to investigate the presence of respiratory symptoms or any element that, from epidemiological point, indicates possible infection with SARS-CoV-2.

EA 003 VIRTUAL REALITY GAMES IN THE TREATMENT OF AMBLYOPIA

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Introduction/Background: The classical approach for the treatment of amblyopia includes the correction of any refractive error and patching of the fellow eye in order to force the use of the amblyopic eye. The method of dichoptic training, aiming at the participation of both eyes in vision achieved with the fusion of two separate images presented simultaneously to each eye, has recently shown positive results in the treatment of amblyopia.

Content: This case study demonstrates the results of a dichoptic training protocol performed in a virtual reality system in children. The aim is to investigate the effect of dichoptic training on visual acuity but also on visual parameters like stereopsis, reading and visual evoked potentials.

Methods: The study included 9-year-old children with anisometropic amblyopia and a 9-year-old child with strabismic amblyopia. Each patient attended 20 sessions, 2 to 3 times per week. The training was conducted using a special software (Vivid Vision, San Francisco, USA) and a virtual reality headset. Training sessions lasted for one hour, during which each patient had a measurement of their prismatic deviation and played five anti-suppression games that also included training of his/her stereoscopic vision. Evaluation of performance before and after completion of the training was assessed with distant and near logMAR acuity, stereo-acuity and visual evoked potentials. In addition, reading performance was evaluated using eye movements monitored with an infrared eye tracker.

Results: The study shows comparative results of the functional vision of the participants before and after the dichoptic training. Moreover, a remarkable increase in stereoacuity and an improvement in visual evoked potentials were evident in patients.

Conclusion/Discussion: Dichoptic training using a virtual reality system seems to improve visual function measures in the amblyopic eye. Finally, the vast majority of the scheduled sessions were completed, implying better compliance to dichoptic training compared to cover treatment

EA 015 TREATMENT OF VERTIGO IN EMERGENCY DEPARTMENT

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Introduction: 25% of patients who visit the ER report as a problem "dizziness / vertigo / instability" while in the 50% of these cases the cause is a disease of the peripheral or central vestibular system. The purpose of this review is to present the approach and treatment of patients who visit the ER with "dizziness / vertigo / instability".

Method: This review contains data from the existing Greek and foreign bibliography on which the modern guidelines used for the emergency treatment of vertigo in the ER are based.

Results: When physicians approach a patient with vertigo, they should first of all distinguish true vertigo from other non-vertiginous dizziness or instability, and the next step is to differentiate between peripheral and central lesion. The second case is potentially life-threatening and requires the assistance of a neurologist. In case of peripheral vertigo, it is very important to diagnose the exact responsible disease (Benign paroxysmal positional vertigo, vestibular neuronitis, Meniere's disease, perilymph fistula,Superior canal dehiscence syndrome, vestibular migraine, vertebrobasillar insufficiency, labyrinthitis). Thus, various therapeutic bedside maneuvers (Epley, Semont, Yocovino) are applied in the benign paroxysmal positional vertigo. In contrast, intramuscular labyrinthine suppressants, benzodiazepines, and cortisone are used in vestibular neuronitis and in Meniere's crisis, while in vestibular migraine, vasodilators and anti-migraine medications may also be needed. Last but not least, in some cases, such as in purulent labyrinthitis, hospitalization and intravenous

antibiotics are necessary, while in some extremely rare cases, which do not respond to conservative treatment, surgery may be needed (eg fistula syndrome, Meniere's disease).

Conclusion: To conclude, during the approach of a patient with vertigo it is of vital importance to evaluate and treat in time any life-threatening conditions. The treatment of peripheral vertigo crisis is etiological and, in most cases, can be done directly in the ER or in the short-stay ward.

EA 084 APPROACH TO VOICE DISORDERS IN PERFORMING ARTS

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Introduction: Voice disorders may affect quality of life, since they may affect significantly daily communication. Performing arts professionals (singers, actors) are a special group that is even more affected by voice disorders, as they may have an impact on their professional activity, as well. The aim of this study is to summarize these disorders, to clarify relevant risk factors and to describe the optimal ways of their prevention and treatment.

Method-Tools: A search on the Pubmed database was performed, with a sequence of keywords such as "voice disorders AND singers", "voice disorders AND actors", etc. Articles related to the topic and population of interest were included in our narrative review.

Results: Voice disorders can be divided into: structural, neurogenic, and functional. Risk factors can be biological, environmental, and behavioral, such as the misuse or abuse of the voice due to artists' lack of knowledge on voice health issues. Prevention is crucial for the preservation of artists' vocal health. It includes artists' adequate education with regards to risk factors of vocal malfunction, and preventive clinical evaluation and intervention by a speech therapist and a laryngologist. Effective treatment is achieved though cooperation of multiple specialties and disciplines (laryngologist, speech therapist, physiotherapist, and voice teacher). The main goal of every treatment strategy is to restore the state of the voice to the level that the artist desires, because any disturbance affects not only the quality of his daily life, but also his career.

Conclusion: There is a number of disorders that are more common in performing artists and may be the result of multiple endogenous or exogenous factors. Prevention and targeted treatment are essential to ensure artists' quality of life, the unhindered continuation of their careers, and the avoidance of losing their income.

EA 074 SENSORINEURAL HEARING LOSS IN GRANULOMATOSIS WITH POLYANGIITIS

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Introduction: Granulomatosis with polyangiitis (GPA) is an uncommon immunologically mediated systemic ANCA vasculitis that is pathologically characterised by an inflammatory reaction pattern that occurs in the upper and lower respiratory tracts and kidneys. The etiology of GPA remains largely unknown. Involvement of the head and neck region can often occur as the first and only manifestation.

Methods/Data: A 58-year-old female with a recent history of complicated sinus infection was admitted at our emergency department with vertigo and unilateral hearing loss. Infectious disease assessment, laboratory test for ANA, C-ANCA, P-ANCA, examination of urine sediment and chest CT were requested. The patient was hospitalized for an episode of vertigo of peripheral etiology and bilateral sensorineural hearing loss as a result of otitis media. The laboratory tests for antigens were negative and WBCs and casts were found in the urinalysis. During her hospitalization, otitis media was relieved with antimicrobial treatment (ceftriaxone-clindamycin), however the patient still has a fever of up to 38.5 and an active urine sediment. CT of the chest showed infiltration of the right upper lobe. The clinical suspicion of ACNA vasculitis is high and was referred to the A 'Pathological Clinic for further investigation. There was a laboratory test for ANCA antigens which was positive for Anti-PR3 / c-ANCA.

Results: Classic otolaryngological symptoms may be the initial clinical manifestation of GPA because the upper respiratory tract is involved in 70-100% of cases. The nasal cavity and sinuses are the most common sites of infection in the head and neck area (85-100%), while otologic disease is found in about 35% of cases. An isolated ear infection before respiratory and renal manifestations is uncommon.

Conclusions: The otolaryngologist plays an essential role in the diagnosis, treatment and monitoring of these patients. Knowing common symptoms makes diagnosis and treatment easier and earlier.

EA 089 HEARING DISORDERS IN PROFESSIONAL MUSICIANS: FROM THE FIRST SYMPTOMS TO TREATMENT AND PREVENTION

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Introduction: Professional musicians face multiple hearing disorders, such as hearing loss, diplacusis, hyperacusis and tinnitus, more frequently than the general population due to chronic exposure to high amplitude sound. In this research review, we investigate the hearing disorders mentioned above, their rate in musicians in comparison to the general population, as well as the associated risk factors, the pathophysiological mechanisms and prevention measures.

Methods-Data: An extensive research review took place until 02/02/22 using databases such as Pubmed, CENTRAL – COCHRANE and Scopus and using the following keywords: “hearing loss”, “professional musicians”, “tinnitus”, “diplacusis”, “hyperacusis”, “ear protection devices”. Clinical studies, systematic reviews and metanalyses, as well as literature reviews, published within the last decade and written in English, were included. Through these studies the factors (pathophysiological, behavioural and environmental) associated with the development of hearing disorders, their rate in the musicians’ population and the prevention approach were investigated.

Results: This literature review shows that 6.1% of the general population suffers from hearing loss, while professional musicians are 3.6 times more likely to develop hearing loss. Regarding other hearing disorders, tinnitus seems to be the most common symptom affecting 51% of all musicians, who have 57% greater chance of developing tinnitus than the general population. Another symptom that frequently coexists with tinnitus is hyperacusis and concerns about 43% of classical and 39% of jazz/rock musicians, while the corresponding percentage in the general population is substantially less. As for diplacusis, the evidence is limited, however musicians perceive tonic differences more commonly than the general population. The rate of these disorders differs among artists of different music genres, e.g. rock and classical, and it seems to be associated with the exposure frequencies, the sound amplitude and the duration of hyper-exposure to loud music. Additionally, the instrument's characteristics, the intervals between the hours of exposure, the practice at a particular time of the day, the gender, the alcohol consumption and the length and the specific frequency of the ear canal may play a role as well. Since all hearing disorder drug treatments are in the experimental stage, prevention is necessary through proper training of artists and radical change of their dangerous habits. The use of earplugs as a protection measure during performance and rehearsal as well as timely medical evaluation by specialized doctors is of vital importance.

Conclusion-Discussion: Even though professional musicians often develop hearing disorders, which may critically affect both their personal and professional life, their knowledge on the risks of chronic exposure to high amplitude sound is limited, often leading to a delayed diagnosis. Consequently, research on effective preventative measures and treatment for these disorders is critical .

EA 043 PRESENTATION OF AN UNUSUAL POST COVID-19 CASE IN A MIDDLE-AGED UNVACCINATED MAN

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Background: Covid-19 is quite present in our lives. Without vaccination, the lives of even young people are threatened, while some of them could end up in the ICU for many days. In fact, the successful outcome of this treatment may not mean the end of the risk. Prolonged intubation can save the patient's life, but can rarely lead to a serious condition called post-traumatic tracheal stenosis.

Case report: A 44-year-old man unvaccinated with not known risk factors or underlying predisposition was infected by COVID-19 in August 2021. The patient's state was so severe that he developed respiratory failure requiring intubation and mechanical ventilation a few days after the disease onset and he stayed in the Intensive Care Unit for a considerable amount of time.Gradually he was able to recover and escape the danger and finally be discharged and return back home. Nevertheless, this recovery didn't last long as he returned to the emergency department of the hospital demonstrating symptoms of upper airway blockage with severe gradually worsening dyspnea and noisy breathing. The endoscopic and imaging examination revealed a severe stenosis of the larynx (subglottic stenosis) and trachea that threatened directly his life. So, in order to deal with this severe situation, the doctors were forced to operate a very difficult surgery (modified Pearson) on an urgent basis and in close cooperation with thoracic surgeons, anesthesiologists and intensivists. The operation was successful at last, but the patient's fatigue was heavy and the recovery long and painful.

Conclusion: The consequences of a severe COVID-19 infection not only endanger the lives of patients directly, but also with serious distant complications, which require new hospitalizations and difficult therapeutic

interventions. The only answer to all this is universal vaccination that effectively protects against the serious COVID disease and its effects.

Paediatrics-Neonatology

EA 096 HUMAN MILK SARS-CoV-2 ANTIBODIES AFTER VACCINATION

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Introduction: Maternal COVID-19 mRNA vaccination stimulates the presence of antibodies in breast milk up to 6 weeks later. However, the duration of the neutralization ability of the antibodies as well as their persistence after pasteurization has not been clarified.

Methods: Three prospective studies were selected. The first study involved 30 breastfeeding women. Antibodies to SARS-CoV-2 and their neutralization activity were measured using the ELISA method comparing pre- and post-vaccination and post-Holder pasteurization. The second study involved women who were breastfeeding when they were vaccinated from February to April 2021. Blood and milk samples were collected on the 14th day after the second dose of the vaccine and IgG, IgM and IgA were quantified against the S1 spike protein. The third study involved 84 mothers whose milk was tested for IgG and IgA before and after vaccination.

Results: IgG levels of SARS-CoV-2 in breast milk peaked 1 month after vaccination and remained elevated for at least 6 months. IgA against SARS-CoV-2 were detected at 1 and 3 months but decreased at 6 months. The neutralization activity of the antibodies was observed in 83.3% and 25.0% of the milk samples at 1 and 6 months after vaccination. In addition, samples before and after pasteurization showed similar IgG levels and neutralization activity, but lower IgA levels after pasteurization. Finally, antibody levels in the milk from mothers with a breastfeeding period of 24 months were significantly higher than in the one of mothers with breastfeeding periods <24 months.

Conclusion/Discussion: A clear correlation was found between COVID-19 vaccination and the concentration of human milk SARS-CoV-2-specific antibodies. Breast milk may contain specific neutralizing antibodies to SARS-CoV-2 which are delivered to breastfed infants for up to 6 months after vaccination. In addition, IgG antibodies and their Neutralization activity are retained in the milk of donor vaccinated mothers after pasteurization.

EA 110 CONGENITAL PORTOSYSTEMIC SHUNT (CPSS) AND FOCAL NODULAR HYPERPLASIA (FNH) – CASE STUDY

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Introduction: Congenital portosystemic shunt – even though rarely reported in children (1/30.000 children) – is characterized by a big range of different clinical manifestations and complications, such as focal nodular hyperplasia of the liver.

Data/Case description: This work is a case study of a 12 years old boy who, at 2 months of age, presented hypobetalipoproteinemia, hypovitaminosis A and prolongation of clotting times. These were found after the investigation of possible classical galactosemia. At 5 years old, he was diagnosed with anastomosis of the right portal vein with the right hepatic vein, and later with focal nodular hyperplasia. This child also presents hyperactivity and learning difficulties. He will soon be transferred to a specialized center to undergo surgical operation.

Results: After being diagnosed with hypobetalipoproteinemia and hypovitaminosis A, the patient started a successful treatment. From the rest of the laboratory check to date, there is a mild hepatic pathology and mild coagulation disorder.

Conclusions: Portal system anastomoses are a common finding in children who have a positive screening test for galactosemia, and therefore regular imaging is recommended. From the international literature, it appears that they are accompanied by neonatal cholestasis, liver complications, pulmonary hypertension, and encephalopathy, while surgical closure can reverse these complications. In this clinical case, the vascular abnormality is the cause of nodular hyperplasia.

EA 086 CONGENITAL GLAUCOMA

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Presentation of congenital glaucoma, pathophysiology of congenital glaucoma, classification of primary-secondary congenital glaucoma, clinical presentation , diagnostic criteria, congenital anomalies, treatment.

Regarding the bibliographic study, the research was made from reknowned medical sites and medical books after the referral of the supervisors regarding the clinical study, the incident was treated by the supervising physician from the 1st Department of Opthalmology of AHEPA.

The work we present is a case-study so as it is understood there are no results but an explanation of a congenital eye disease, including a clinical case.

The result of this presentation and its aim is to address a congenital anomaly by investigating a clinical case urging many of our fellow students to be informed and why not to deal with this difficult but so interesting piece of medical science.

EA 020 THE SISYPHUS DRAMA a.k.a OSTEOGENESIS IMPERFECTA IN CHILDREN AND ADOLESCENTS, THERAPEUTIC OPTIONS

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Background: Osteogenesis imperfecta (OI) describes a rare - autosomal dominant type - inherited skeletal disorder affecting collagen type 1 quantity or structure, causing an increasing bone fragility that leads to fractures. Several gene mutations are associated with OI with COLIA1 or COL1A2 mutations being the most common. As a result, Bone Mineral Density (BMD) is often found decreased and fractures occur. Bisphosphonates, monoclonal antibodies, stem cells, vitamin D, and other therapeutic agents, such as TGF-b, have been used to increase BMD and to reduce fracture risk in children with OI. The aim of the review was to assess the effectiveness of these treatments in childhood.

Methods: PubMed and SCOPUS were searched up to December 2021 for published studies presenting all treatments available in the last 20 years for the treatment of OI in children and adolescents. Case control studies, systematic reviews and case reports regarding OI treatment in children and adolescents were included. The studies above were compared and studied, so as to clarify the efficacy of each drug in bone fragility, BMD, vertebral thickness, and inhibition of bone resorption and skeletal malignancies in children.

Results: Reviewed data showed an improvement in fracture rate, BMD and bone thickness although none of the treatments available managed to offer long-term cure to the patients. Bisphosphonates are the gold standard in treatment of OI children, with novel therapies like monoclonal antibodies, teriparitide and stem cell transplantation providing encouraging data for entering as an alternative or supplementary therapeutic option.

Discussion: While OI is well established as a bone disease in children and adolescents and therapeutic options are used for years, new multidisciplinary approaches are encouraged to be used in treatment, in order to further enhance children's with OI healthcare.

Keywords: osteogenesis, imperfecta, brittle bone disease, children, adolescents, childhood, treatment, bisphosphonate, monoclonal antibodies, stem cell

EA 030 EFFECT OF PROTECTIVE FACE MASK ON CHILDREN'S CARDIORESPIRATORY FUNCTION

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Introduction: In the evolving Covid-19 pandemic the use of a protective mask is mandatory for children in the most daily activities outside home. However, the effects of prolonged use on cardiorespiratory function at rest and during exercise remain unknown.
The aim of the study was to evaluate the effect of face mask on children's cardiorespiratory function at rest and during exercise.

Methods: This is a cohort study conducted at the Pediatric Pulmonary Unit of the University Hospital of Patras. Eleven children aged 7-14 years without chronic health problems participated, who underwent a cardiorespiratory fatigue test with and without the use of a surgical face mask. Hemoglobin saturation (SpO2), heart rate (HR), respiratory rate (RR), end-expiratory CO2 concentration (FetCO2), temperature (T) inside the mask, and maximum nasal inspiratory flow were assessed (PINF), at rest and in various phases of exercise.

Results: At rest, the use of a surgical mask did not affect cardiorespiratory parameters, apart from a small increase in RR. During exercise, the use of a mask did not affect SpO2, but led to an increase in HR and RR at all stages, although there were no differences in their pattern of change. FetCO2 was also higher with the use of a mask as well as the felt temperature inside. Exercise using mask led to a significant increase in PINF.

Conclusion-Discussion: The use of a surgical mask does not affect the physiology of calm breathing in children. During exercise, an increase is observed in almost all cardiorespiratory parameters, but without clinical significance. More important seems to be the change in the microclimate inside the mask, which is associated with the subjective feeling of discomfort. The use of a surgical mask is safe for children, both in conditions of rest and during short, moderate exercise.

EA 085 MALE NEONATE WITH POTTER II SYNDROME: CASE STUDY

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Introduction: Potter syndrome is a congenital disorder with limb deformities and characteristic face, incombination with pulmonary hypoplasia, resulting from oligohydramnios secondary to renaldiseases. These include polycystic kidney disease, dysplastic or hypoplastic kidneys, and obstructive uropathy.Potter II occurs in 1: 1,000 births.In half of all cases, there is a genetic cause.
Ultrasonography shows kidneys with multiple cysts of different sizes, which have increased renal parenchymal echogenicity. The diameter of the cysts determines the size of the kidney. A conservative approach is often adopted.

Methods: We present a case of a full-term male neonate with Potter II syndrome born in a University Maternity Hospital in Athens.(Aretaieio Hospital)

Results: Second trimester ultrasound performed at 23 +3 weeks of gestation, revealed right kidney with Potter II image (40x38x30mm), normal left kidney and normal bladder. Similar findings were obtained on the ultrasound at 29 + 6 weeks, with right kidney dimensions of 50x53x57mm and normal left kidney. On clinical examination after birth, a large mass was palpable in the right hypochondrium with extension to the right pelvic fossa and projection to right paraspinal and cryptorchidism. Ultrasound examination revealed pleocystic dysplastic kidney (R) and left kidney with normal renal parenchyma. Chemoprophylaxis with cefaclor was initiated, as per the Pediatric Nephrologist's instruction, and hourly diuresis and vital signs were recorded. In the second month of life, ascending cystourethrography was negative for vesicoureteral reflux, and static renal scintigraphy showed a normal solitary left kidney.

Conclusion: The Potter II syndrome is a serious condition that can be life-threatening. The underlying cause is usually unclear. In our case, the newborn was born in good general condition, with normal diuresis and normal left kidney.

EA 103 MUSIC THERAPY IN NEONATAL INTENSIVE CARE UNITS: A NARRATIVE REVIEW

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Introduction: Music therapy is the use of musical interventions in the context of the therapeutic relationship to achieve individualized goals. In recent years, music therapy has joined many neonatal intensive care units (MENN) due to the fact that it is a non-pharmacological, non-invasive and relatively low cost method. The present study aims to investigate the effects of the MENN acoustic environment on the preterm infant, the therapeutic effect of music therapy in the premature and the interaction of the triptych therapist - music therapist - parents.

Methods: A search of the printed literature on the subject and a search on the basis of PubMed with combinations of the terms ""premature infant"", ""infant, premature"", ""prematurity, neonatal"", LBW, ""low birth weight"", prematurity; auditory stimulation, acoustic stimulation, music therapy, music, song *, singing *, “therapy, music”; neonatal intensive care unit, “intensive care unit, neonatal”, NICU was conducted.

Results: The noisy environment of the hospital (external sounds, sounds from the mechanical infrastructure, functional sounds, sounds from the medical equipment, human speech) can have a long-term negative effect on the Central Nervous, Circulatory and Respiratory system of the newborn. Music therapy can help the newborn to make a balanced transition from the inside to the outside environment, to normal heart function, to improve feeding, to lead to faster development, and to terminate hospitalization. Ocean drum, gato box, slit drum are among the most widely used musical instruments. Lullabies and recorded music are also used. The beneficial effect of music therapy is recognized by the parents as it significantly benefits their own mental state but also their relationship with the new family member.

Conclusion/Discussion: Music therapy seems to be a practice that in no way has a negative effect on young NICU patients and their families. However, more studies with a unified design and methodology along with utility quantification tools are needed in the field for safer and more valid conclusions.

Pneumonology

EA 091 WHAT ARE THE CAUSES AND FACTORS THAT LEAD A VACCINATED PERSON TO BE HOSPITALIZED AND PASS AWAY?

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Covid-19 is a disease that urges the implementation of a method of prevention and treatment, which is the immunization by getting vaccinated. The aim of the study is to understand the course of the disease and comorbidities in patients who became ill after their vaccination. It was conducted in the Covid-19 department of the Pulmonary Clinic of the University General Hospital of Larissa (UNHL). Data was collected from 53 vaccinated persons from the electronic profile, their medical records and history, which were recorded in questionnaires. After the analysis of the findings, a sex ratio of patients (men: women) of 2:1 was observed and 8/10 were over 60 years old. In addition, the majority of them had completed their vaccination in a period longer than 150 days after the second dose. 87% had comorbidities, most commonly Diabetes Mellitus and Hypertension, while 15 patients had hemoglobin saturation appropriate for admission. 8% of the patients passed away, with half of them over 85 years old, while in total they had completed the second dose of the vaccine more than 250 days before their passing. The remaining 92% of patients were discharged from the hospital. In general, cases were observed in which the disease could have been treated at a primary level. In conclusion, in patients vaccinated with Covid-19, specifically the elderly (over 60 years old) who show comorbidities have an increased risk of hospitalization and mortality, with 90% of them having a good prognosis for recovery.

EA 100 WELDER'S LUNG

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Introduction: Occupational lung diseases evolve during time and usually remain unnoticed, especially if the patient is a smoker. We present a case of Welder's lung, caused by inhalation of welding fumes.

Methods: Detailed examination of patient's medical files and review of literature through Pubmed were conducted.

Case report: A 64-year-old male, smoker (160 pack years), former worker in welding and exposed to sandblasting, without protection for 20 years, presented to the emergency department complaining of dyspnea the last 48 hours. Regarding medical history, there was progressive massive fibrosis on a previous CT

7 years ago. Clinical image, respiratory failure, diminished breath sounds unilaterally directed the diagnosis towards pneumothorax, which was confirmed by chest x-ray. Further examination disclosed areas of hyperpigmented skin and laboratory tests revealed elevated levels of iron, ferritin and transferrin saturation. In addition, analysis of the broncho-alveolar lavage revealed high ferritin, macrophages containing iron and inorganic fibers and so did the skin biopsy. After Hereditary Hemochromatosis was excluded, the diagnosis was directed toward pneumosiderosis. Professional background, progressive massive fibrosis and inorganic fibers in the BAL raised suspicion for concomitant silicosis. The above comprise the nosological entity called "Welder's lung". The correlation of the disease with lung cancer necessitated a PET/CT scan, which displayed bilateral hypermetabolic sites indicative of malignancy. FNB set the diagnosis of adenocarcinoma and subsequent stereotactic radiosurgery was performed.

Conclusion/Discussion: The iron oxide, inhaled by welders, causes a benign pneumoconiosis known as siderosis. The patient can remain asymptomatic, but perivascular and peribronchial deposition multiplies the risk of lung cancer. Pneumothorax and bronchiolitis are possible complications and cessation of exposure is the acceptable therapy. Exposure to silica is enhanced in working places with sand milling and manifests as chronic silicosis. The characteristic nodules in upper lobes progressively results in the destruction of pulmonary architecture and progressive fibrosis, while silica has also been implicated as a carcinogenic substance. The failure of quantification of exposure and other confounding factors inhibit the ascertainment of correlation between welders and lung cancer. Consequently, screening with CT should be considered.

EA 041 COVID-19 AND NHL: AN INTERESTING CLINICAL CASE

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Introduction/Background: According to current literature, patients with Non-Hodgkin Lymphoma (NHL) present a different immune response to SARS-COV-2 virus. In this framework, we are presenting a case study of a patient with prolonged clinical course.

Methods: We performed a detailed analysis of the medical record of a 54-year-old female patient with underlying BNHL mantle cell lymphoma, under maintenance therapy with rituximab. The patient, fully vaccinated (three doses of Pfizer vaccine) against SARS-COV-2, presented to the emergency department with a four-day history of persistent fever and dry cough.

Results: As reported by the first evaluation, she only had fever and mild hypoxaemia. Chest CT scan showed bilateral ground-glass opacities without enlarged lymph nodes. After the second day of hospitalization her symptoms subsided (under remdesivir, dexamethasone and HLMW prophylaxis). The ninth day of her hospitalization, her clinical picture deteriorated, as documented by the elevated inflammatory markers and the radiological and respiratory insufficiency (VM 60%). Our differential diagnosis included healthcare-associated infection or relapse of her hematological disease. Her blood, urine and sputum cultures were all negative, excluding our suspicion. The patient was started again on dexamethasone leading to a gradual clinical, laboratory and imaging improvement until the 30th day of hospitalization. She was discharged from the hospital without fever and respiratory insufficiency and need for oxygen supply (SpO2: 96% at 0,21).

Conclusion/Discussion: We are analyzing an interesting clinical case of a patient with underlying lymphoma and COVID-19 infection, who, after the first phase of the disease, presented acute deterioration of her clinical course with severe respiratory failure. The impact of chemotherapy, immunotherapy (rituximab) and vaccines on patients' clinical course needs to be further investigated. The case aforementioned emphasizes the need of a careful and prolonged medical supervision on patients with underlying immunodeficiency/immunosuppression because of a possible severe and prolonged clinical course.

EA 013 BRONCHOSCOPIC DIAGNOSIS OF PERIPHERAL LUNG NODULES

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Introduction/Background: The implementation of lung Cancer prevention programs has highlighted the need for accurate diagnosis of peripheral lung lesions. The purpose of this study is to systematically review the literature on techniques that allow the diagnosis of peripheral lung nodules.

Methods: A review of the international literature and a search of PubMed was conducted to apply, compare and evaluate the methods used in the diagnosis of peripheral lung nodules, alone or in combination.

Results: The most important diagnostic tools are: The ultrasound catheter (radial EBUS), the navigation systems (EMN- Electromagnetic navigation,) the virtual bronchoscopy system (VB- Virtual Bronchoscopy) and, the C-arm or Cone Beam CT guidance system. The diagnostic value of conventional flexible bronchoscopy is ≤ 65%. Combining the technique with radial EBUS significantly increases the chance of diagnosis. When radial EBUS is combined with the electromagnetic guidance (EMN) system and Cone Beam CT, the sensitivity reaches 88%.

Conclusion/Discussion: Modern guidance techniques significantly increase the diagnostic sensitivity of the bronchoscope in the periphery of the lungs even for nodules <2cm. The combination of all available techniques offers better results and is the appropriate approach.

EA 080 MAPPING OF ELECTRONIC HEALTH APPLICATIONS (mHealth Apps) RELATED TO THE MANAGEMENT OF CHRONIC LUNG DISEASES IN THE PEDIATRICS. A SCOPING REVIEW

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Introduction/Background: Mobile health applications (mHealth Apps) aim to improve self-management of chronic disease. The number of mHealth Apps is limited in children with chronic respiratory diseases and the

appropriateness of each content is under investigation. The purpose of the study is to map mHealth Apps that result from the literature with the following criteria.

Methods: Inclusion criteria: quantitative and/or qualitative studies for children aged < 17 years, in English language with a user-friendly behavior approach. The mHealth Apps were identified using 3 databases: MEDLINE (PubMed), Scopus and Cochrane Library with keywords: apps, mobile Health, self-management, mobile phone, Cystic Fibrosis, Asthma. The evaluation of the quality was conducted based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses – Extension for Scoping reviews (PRISMA –ScR).

Results: A total number of 669 studies were found, 8 of which met the inclusion criteria. These studies describe 6 mHealth Apps for Android and IOS, exclusively used for children aged < 17, either with asthma or cystic fibrosis (n=269). Moreover, all are available in English language, easy accessible with individualized feedback in real-time. All selected apps were comparable in the following categories: availability, functionality and design, ease of use, and information management and medical accuracy. Also they contain functions for recording aspects related to the disease, daily diet, and physiotherapy (such as medicines, meals, reminders, and educational materials). To date, the limited capabilities of the mHealth Apps to provide information related to the compliance of the children in the disease self-management, as well as the lack of quality data are considered disadvantages in their use.

Conclusion/Discussion: This mapping provides a guided selection of the most appropriate mHealth App, based on the needs of each target population.

Keywords: eHealth, cystic fibrosis, asthma, cell phones, suggested applications, self-management, children, scoping review

EA 067 IMMUNOTHERAPY FOR COVID-19

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Introduction/Background: More and more clinical trials nominate that immunotherapy may play a leading role in the management of COVID-19. This presentation aims to review the current guidelines for treating patients with COVID-19 regarding the use of immunotherapeutic drugs.

Methods: A review of the literature was performed, including findings from the WHO, FDA/CDC, EMA/ECDC websites and major systematic reviews.

Results: Licensed drugs are largely divided regarding their mechanism of action into monoclonals targeting the S protein of SARS-CoV-2 and into modulators of the immune response of the host. Casirivimab/imdevimab and sotrovimab belong to the first category and dexamethasone, tocilizumab and anakinra belong to the second category. There are several differences between regulatory organizations like FDA and EMA regarding the labeling of these products and their positioning in therapy. Specific mentioning is done to the development program that led to the authorization of anakinra by the EMA for the management of COVID-19. This program lasted from April 2020 until June 2021 and included the SAVE open-label phase II study and the SAVE-MORE pivotal randomized clinical trial. Most of the studies were done in Greek sites and were coordinated from

Greece.

Conclusion/Discussion: SARS-CoV-2 is the first pathogen that has been described so early after its emergence. A series of immunomodulatory drugs have been approved for the best management of patients with concrete profiles. However, their use in clinical practice may be difficult as it depends on hospital's availability and resources. The use of specific biomarkers is crucial in order to recognize patients at risk and to deliver treatment tailored to the patients' needs.

EA 036 MOLECULAR SUBTYPES OF SMALL-CELL LUNG CANCER

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Introduction: Small cell lung cancer (SCLC) is a malignancy with high proliferative rate and a very poor prognosis with most patients having already metastatic disease when they are diagnosed. Here, we describe the molecular subtypes of SCLC.

Methods-Data: A literature review was conducted using PubMed. Only articles that were published after 2017 were selected.

Results: Molecular subtyping of SCLC depends on the expression of three major transcription factors: ASCL1 (achaete-scute homolog 1), NEUROD1 (neurogenic differentiation factor 1) and POU2F3 (POU class 2 homeobox 3). As a result, the following molecular subtypes have been described: SCLC-A, where ASCL1 is overexpressed, SCLC-N, where NEUROD1 is overexpressed, and SCLC-P, where POU2F3 is overexpressed. A fourth molecular subtype (SCLC-I) has increased expression of inflammation-related genes and low expression of ASCL1, NEUROD1 and POU2F3. These subtypes have different degrees of neuroendocrine differentiation. SCLC-A and SCLC-B have a neuroendocrine transcription pattern while SCLC-P and SCLC-I have a non-neuroendocrine transcription pattern. Literature suggests the existence of plasticity between molecular subtypes of SCLC. Hence, transition from one molecular subtype to another, which has been related to the development of chemotherapy resistance, may be possible. Moreover, in vitro cytotoxicity studies suggest that each molecular subtype might be susceptible to different targeted therapies.

Conclusion/Discussion: Contrary to the belief that SCLC is a homogenous malignancy, an increasing amount of recent data shows that there is an important degree of both intratumor and intertumor heterogeneity in small cell lung cancer. These findings pave the way to future personalized approaches in the therapy of SCLC and to a better selection of patients who are more likely to benefit from targeted therapies.

Psychiatry

EA 063 PHARMACOLOGY OF DEPRESSION TARGETING PATHWAYS OF INFLAMMATION.

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Introduction/Background: Inflammatory pathways are documentedly involved in the pathophysiology of depression. Based on existed evidence, we investigated how this correlation can be used therapeutically.

Methods: We conducted a review of literature on Pubmed platform. We methodically studied systematic reviews, using their relevance to the object of research and their scientific validity and accurancy as selection criteria.

Results: Degradation of both innate and acquired immunity has been observed in patients with depression. Due to the stress condition, increased amounts of pro-inflammatory agents and free oxidative radicals appear, which activate the breakdown of tryptophan and the kynurenine pathway. By amplifying IDO1 enzyme, production of kynurenine is increased, leading to deprivation of tryptophan and then serotonine. More specifically, in another step of the pathway, we observe a dysregulation between kynurenine's metabolites, as the neurotoxic factor QA is up-regulated (which also acts as an agonist of the NMDA receptor), and the neuroprotective factor kynA is down-regulated. An interesting alternative is the use of ketamine, especially for psychiatric emergencies (suicide). Ketamine is a well known anesthetic, which also acts as an antidepressant through regulating many pro-inflammatory cytokines (IL-6, TNF-a). On this premise, classic anti-inflammatory drugs appear as useful alternatives, especially when chronic inflammation is underlying (autoimmune, autoinflammatory diseases). For instance, tolicizumab, is a monoclonal antibody that acts as an agonist of IL-6 receptor, and is going through phase 2 of clinical trials for therapy of depression.

Conclusion/Discussion: To summarize, inflammation and depression correlation can offer alternative therapeutic weapons, aiming to inflammation pathways, while opening new fields for research.

EA 029 COVID-19 PANDEMIC: AN EMERGING MENTAL HEALTH PANDEMIC

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Introduction: The Covid-19 pandemic that occurred worldwide in late 2019 is an unprecedented health phenomenon in the modern world, which has affected every aspect of life. Almost the entire scientific community is assisting to address and mitigate this multifaceted crisis, while governments and global organizations have indulged in efforts to implement primary, secondary and tertiary prevention measures and strategies.

Purpose and objectives: The aim of this study is to investigate the psychological impact of the pandemic in the literature and to statistically evaluate the levels of depression, anxiety and stress in the Greek population in comparison with global and European data. The study of the spectrum of psychological effects can contribute to a meaningful understanding of the problem and to the targeted selection of prevention and treatment interventions both at individual and collective level.

Methodology: This project is an extensive survey of contemporary literature and statistical analysis of data including both the Greek, European and global population with emphasis on high-risk groups for the occurrence of anxiety and depressive disorders.

Results: According to the findings of the Greek School of Public Health, moderate to very high levels of depression were reported by 28.6% of participants in a recent survey, moderate to very high levels of anxiety by 24.1% and moderate to very high levels of stress by 21.7%. It also revealed groups of the population that appear to be more vulnerable, such as those who perceive their health status as poor, those who are experiencing a mental illness, those who feel insecure about coping policies, those who do not have extended sources of information beyond family and friends. Furthermore, women in particular appear to be more vulnerable in terms of anxiety and stress, as well as those quarantined due to illness or contact with a suspected case.

EA 038 GENERALIZED ANXIETY DISORDER: WHEN "JUST RELAX" ISN'T ENOUGH

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Introduction/Background: Generalized anxiety disorder (GAD) is one of the most common mental illnesses, yet usually poorly diagnosed. It is characterized by excessive worry and tension about everyday events and problems, to the point where the person experiences distress or has marked difficulty in performing day-to-day tasks. The aim of this paper is to present the disorder, its neurobiological basis and pharmacologic treatment.

Methods: For this review, we searched for references and therapeutic guidelines of GAD in the Pubmed and Google Scholars online databases.

Results: The neurobiological mechanisms resulting in GAD remain incompletely understood despite significant progress in this research area. Studies suggest that there are biochemical imbalances in relevant neurocircuitries, such as those that promote aversive responding, favouring learning and maintenance of fear vs. those that inhibit aversive processing and promote inhibitory (extinction) learning. More specifically, alterations in the structure, function and connectivity of the amygdala, the medial prefrontal cortex (mPFC), the anterior cingulate cortex, the insula and the bed nucleus of the stria terminalis participate in the development of GAD. First line treatments include modulation of the GABA system such as benzodiazepines and buspirone, as well as antidepressants 'selective serotonin reuptake inhibitors' (SSRIs) and 'serotonin and norepinephrine reuptake inhibitors' (SNRIs). Novel anxiolytic agents aim at the glutamate system. Patients also benefit from a combination of medications and psychotherapy, such as cognitive behavioral therapy (CBT), which is considered to be the most effective form. However, CBT's long-term results are sometimes questioned.

Conclusion/Discussion: Generalized Anxiety Disorder can greatly affect a person's social life, productivity and wellbeing. Even though there are gaps in our understanding of its pathophysiology, it is essential to sensitize the public and to destigmatize psychotherapy and the prescription of psychotropic medicines, in order to treat or lessen its symptoms.

EA 064 EATING DISORDERS IN CHILDREN AND ADOLESCENTS. AN EPIDEMIC DURING PANDEMIC ERA?

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Introduction/Background: The SARS-CoV-2 pandemic and the restrictive measures that were implemented, had a significant impact on the mental health of children and adolescents. In a short period of time since the beginning of the pandemic, there has been an increase in the presentation of Eating Disorders (ED) as well as a worsening of existing ones.

Methods: A MEDLINE search of studies published from February 2020 to February 2022 was performed to identify relevant articles. The following terms were used: [pandemic], [covid-19], [eating disorders], [children], [adolescents].

Results: Compared to before the pandemic, an increase in new cases of ED in children and adolescents was reported. In addition to this quantitative increase, the severity of the disorders was reported higher compared to the pre-pandemic period. Moreover, inpatient hospitalization for minors appeared to have increased significantly - almost twofold - in the first year of the pandemic. Finally, with regard to outpatients, a significant reduction was recorded with the start of the restrictive measures, however, with their lifting, in a short period of time (end of 2020), the rates returned to pre-pandemic levels.

Conclusion/Discussion: According to literature, it appears that during pandemic there was a clear increase in ED of children and adolescents. It seems that the restrictions on preventing the spread of the virus contributed to this increase, as social isolation, feelings of loneliness, withdrawal from normal activities, fear of possible infection, and loss of daily routine, either seemed to exacerbate difficulties or acted as triggers for the appearance of ED. At the same time, changes in the provision of mental health services possible were a hindrance to the care of minors with ED. It is vital, in critical periods, to maintain access to mental health services as well as to continue receiving treatment without interruption.

EA087 POSTPARTUM DEPRESSION – IS IT AS INNOCENT AS WE THINK?

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Introduction: Pregnancy is usually a joyful event in the life of a woman and a couple. However, about 1 in 10 women will develop postpartum depression (PPD) after giving birth. PPD is a mental disorder with a variety of risk factors, biological, psychological, and social. It is considered important to make this condition more widely known, because while it can be treated, many young mothers experience feelings of guilt and shame that prevent them from seeking appropriate help.

Method-Tools: The global medical database, Pubmed, was searched with a sequence of keywords such as "postpartum depression AND symptoms", "postpartum depression AND prevalence", etc. Review articles from the last five years on which the presentation is based were selected.

Results: PPD is one of the most common disorders that occur after childbirth. It usually appears 4 weeks to 12 months after the birth of the child. One of the most important risk factors for developing PPD is a history of mental disorders (mood disorders or anxiety disorders). Other risk factors are hormonal and psychosocial. Symptoms of PPD include a depressed mood, loss of interest, feelings of guilt or unworthiness for the maternal role, and suicidal thoughts. It is important to be recognized in time to ensure the health and protection of the life of both mother and baby. Appropriate treatment helps to ensure the quality of life, to prevent possible suicide, and to strengthen the emotional bond between mother and baby, which plays role in the future psycho-mental development of the child. Early recognition and treatment requires the cooperation of gynecologists, pediatricians and psychiatrists.
Conclusion: Postpartum depression is a common problem, which affects both mother and baby. The symptoms of PPD should always be taken seriously and the mother should be given the appropriate treatment. As a result, she will be helped, as well as the baby whose care will be uninterrupted.

EA 125 PORTRAYAL OF ADDICTION IN THE FILM INDUSTRY

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Introduction The use of alcohol and other addictive substances seems to be gaining momentum nowadays. This phenomenon is often reflected on the screens of the cinema, which sometimes manages to inform and sensitise its audience, whereas other times it rather ends up embellishing this abuse, approaching it with a more romantic note. The purpose of this work is the analysis of movies that address the phenomenon of addiction, emphasising the way events are presented in cinema as opposed to reality.
Methods-Data: In order to execute this work, a bibliographic review of a variety of scientific articles was carried out. In addition, a meticulous analysis of 5 specific films with representative content was applied. Finally, through the contact with beneficiaries of detoxification programs, conclusions were drawn about the realism of the cinematic image.
Results: The fact that a significant number of films in world cinema seem to portray quite realistically the dangers of addictive substances, the psychological causes that lead to their use, as well as the mental and physical exhaustion of the user, is both gratifying and hopeful. However, unfortunately, there are several films, the content of which is far from the harsh reality. A certain beautification of addiction is observed, by hiding its adverse effects on the human body and mind, reproduction of several racist and sexist stereotypes, as well as misinformation about the procedural and economic part of the detoxification process.
Discussion: The influence of the seventh art on the average person is great. Conclusively, reproducing an idealized or even misleading image concerning an issue of major social and psychological importance, instead

of educating the general public, may endanger the physical integrity of people with a vulnerable mental balance. Adolescents in particular seem to be the main risk group of the projected cinema models.

EA 132 PSYCHOSIS RELATED TO COVID-19 AND POST-COVID-19 DISEASE

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Introduction/Background: The COVID-19 pandemic generates stress and terror worldwide, just like other pandemics did in the past decades. The infection caused by SARS-CoV-2 seems to have a severe impact on mental health. Specifically, a relationship between SARS-CoV-2 and psychotic symptomatology - in patients without previous history of mental health disorders - has been standing out since the beginning of the pandemic until now.

Methods: Literature review since 2020 up to the present day, with eligibility criteria the exclusion of: patients with medical history of schizophrenia before COVID-19, psychotic symptomatology caused by other factors.

Results: Psychosis, as a result of COVID-19 can be observed either at the acute phase (COVID-19 infection), or afterwards (post-COVID-19). At the acute phase, the most possible pathogenetic mechanism is the inflammation of the central nervous system, either due to the neutropism of the virus or due to the systemic inflammation. Some studies also include in the pathogenesis the ACE-2 receptor and the process of demyelination. As for the post-COVID-19 psychosis, the suggested pathophysiological mechanisms are: the prolonged inflammatory response in the central nervous system, the homeostatic dysregulation of the neuroglia and the presence of autoantibodies against neuronal cells' receptors.

Conclusion/Discussion: Our knowledge of COVID-19 related psychosis is limited due to the recent onset of the COVID-19 disease. The premature mortality rate of psychosis, the repetitive pattern of viral infections and psychosis in the past and the necessity for immediate pharmacological intervention require further investigation of the COVID-19 and psychotic symptomatology correlation.

Urology

EA 113 THE ROLE OF 3D-PRINTING IN UROLOGY

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Introduction: Three-dimensional (3D) printing, is being used increasingly in medicine today for many applications including surgical planning and simulations, intra-operative guidance, patient education, and trainee education. 3D reconstruction technology creates 3D virtual and printed models that first appeared in urology to aid in the treatment of oncological diseases of the prostate and kidneys. The latest revolution in the field involves models overlapping onto the real anatomy and performing augmented reality procedures.

Methods: A non-systematic review of the literature was performed, in the database PubMed, which was screened for studies regarding the use of 3D printed models in the field of urology. Specifically, we evaluated how the 3d printed models contributed in resident's education/training, diagnosis, treatment and surgical planning.

Results: To date, 3D-printed models have been used and studied most commonly in the preoperative planning for nephron-sparing surgeries during the treatment of renal masses, where the challenges of complex renal anatomy and benefits of reducing renal ischemic injury create the most intuitive value. Prostate models are the second most common, particularly in the planning of nerve-sparing procedures. These models were evaluated by both experienced surgeons and residents on their anatomical accuracy and realistic simulation of the surgical environment, with specialised questionnaires.

Discussion: Early studies have demonstrated sufficient realism and educational effectiveness. Subsequent studies demonstrated improved surgeon confidence, operative performance, and optimized patient results. Realistic, accurate, and reasonably priced models can currently be generated within hours using standard desktop 3D printers. Undeniably, future studies are needed to assess the impact of 3D technologies on long term patient related outcomes, in order to reach the next stage of evolution of such technology, and to maximize its potential applications.

EA 099 ASSOCIATION BETWEEN DIABETES MELLITUS AND URINARY INCONTINENCE

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Introduction: The aim of the present study was to explore the possible relationship between urinary incontinence and diabetes mellitus.

Methods: The relevant international literature was reviewed in PubMed, using the terms; “urinary incontinence AND diabetes mellitus AND associations”, “urinary incontinence AND diabetic patients”, “urinary incontinence AND diabetes mellitus” as long as the filters; “English language” and “Humans”.

Results: Many studies identify a strong association between diabetes mellitus and urinary incontinence and recognize diabetes as a risk factor for both stress and urge incontinence. This risk rises with age and it is more common between women than in men. In addition, several studies have demonstrated a higher prevalence of urinary incontinence in pregnant women with vs without gestational diabetes mellitus, whereas diabetes seems to represent a possible comorbidity in children with enuresis. The reasons why diabetes provokes dysfunction of continence mechanisms are still debatable; a possible explanation might lie on its microvascular and neurological deterioration that come along while the poor glycemic control is related with reduced daily activities due to incontinence.

Conclusion/Discussion: There is a high prevalence of urinary incontinence in patients with diabetes mellitus and women with gestational diabetes mellitus. Microvascular and neurological deteration that characterizes diabetes may result in impairment of the continence mechanisms. An improvement in glycemic control may cause a delay in the beginning and development of those complications.

EA 062 TESTICULAR CANCER AND INFERTILITY: CAUSE OR EFFECT?

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Introduction/Background: Research implies that patients with suffering from testicular cancer, could also suffer from infertility issues. The aim of our study is to would like to further investigate whether infertility contributes to the appearance of the disease in the first place and the possible relationship between these two pathologic entities.

Methods: This study is a systematic review based on the results that came after research in the of the most recent articles published in PubMed database (including MEDLINE). Our research was focused on articles written in English and published from 2016 to 2021. We only included the most relevant and more robust articles with satisfying participants number and statistically important results .We endinged up , choosing 25 articles out of the 52 that meet our criteria.

Results: Testicular cancer is the most common malignancy among young men between the age of 15 to 35 years old. Testicular cancer patients are at risk of developing sperm DNA damage, including mitochondrial dysfunction, ineffective chromatin packaging, meanwhile in these patients genes polymorphisms can be detected. As a result, spermatogenesis could be affected and insufficient. On the other side, infertile men shared common pathophysiological pathways with testicular cancer patients and it is shown that first degree relatives of interfile men have the double potential of developing testicular cancer. Furthermore, reduced spermatozoa concentration, abnormal morphology and decreased mobility have been linked to testicular carcinogenesis .

Conclusion/Discussion: Based on these data, it is made clear that a connection between infertility and testicular cancer is present. Regarding, cancer patient, the treatment as well as the disease itself or in combination with its treatment ,contribute to reduced fertility of the patient potential. In order to prevent such issues , further research must be made , aimed at sperm preservation and early identification all of the infertile men that are in high risk for testicular cancer.

Keywords: male infertility; testicular cancer; semen quality; spermatogenesis;

EA 058 1-2 CM LOWER POLE STONES: CONTEMPORARY TREATMENT

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Introduction/Background: The optimal management of 1-2 cm lower pole kidney stones remains controversial among urologists, who can currently choose from three available treatment options: shockwave lithotripsy (SWL), retrograde intrarenal surgery (RIRS), and percutaneous nephrolithotomy (PCNL). We performed a review of the recent literature to compare the efficacy and safety of these modalities and provide insight on how to approach medium sized lower pole stones.

Methods: We conducted a literature review on Pubmed for relevant articles in English, published between 2015 and 2022. We used the following terms in different combinations: lower pole stones, lower calyceal stones, management, treatment. We chose studies that involved adult population, medium sized lower pole stones and at least one of the mentioned modalities.

Results: 7 meta-analyses, 7 randomized controlled trials and 2 retrospective studies were analyzed for this review. Regarding the stone free rate (SFR), PCNL was the most efficient procedure, with RIRS following closely but with a statistically lower SFR. The retreatment and auxiliary procedure rate were low for both modalities with no difference between them. SWL had the worst SFR, as well as the highest retreatment and auxiliary procedure rate. As for the overall complications, PCNL had the highest rate, followed by RIRS and SWL. However, most studies showed no statistically significant difference among the three. SWL had the shortest operative time, while RIRS and PCNL had comparable duration. PCNL had the longest hospital stay, followed by RIRS and SWL.

Conclusion/Discussion: Both PCNL and RIRS could be considered efficient and safe options for the management of 1-2 cm lower pole stones, with PCNL being superior in terms of SFR and RIRS in terms of hospital stay. During decision-making other factors should, also, be taken into consideration, such as the contraindications of each procedure, the renal anatomy and patient's preference.

EA 118 URINE BIOMARKERS FOR THE DETECTION OF BLADDER CANCER: RECENT ADVANCES

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Introduction: This paper aims to investigate the potential role of urine biomarkers in the diagnosis of bladder cancer.

Methods: 65 articles were reviewed using the PubMed-Medline database. We reviewed articles that had at least an abstract written in English within the last five years. We included in our review only the most relevant and contemporary research whereas case reports, reviews and case series were excluded. Nevertheless we included systematic reviews and meta-analysis.

Results/Discussion: Based on the literature studied, biomarkers such as NMP22, BTA Stat, Keratin 17, components of the UroVysion test and ImmunoCyt test, as well as specific miRNAs are of particular interest for the diagnosis of bladder cancer. However, it should be emphasized that these markers show significant fluctuations in their sensitivity and specificity, especially when used alone and not in a partial combination and therefore there is a need for further clinical and laboratory studies in order to determine more accurately their reliability in the diagnosis of bladder cancer.
Conclusion: Based on the existing literature, it appears that the use of biomarkers for the diagnosis of bladder cancer is particularly interesting, but there is a need for more studies in order to draw safe conclusions and identify the most appropriate markers.

EA 049 VESICOURETERAL REFLUX - DIAGNOSIS AND TREATMENT

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Introduction: Vesicoureteral reflux is the most common congenital condition of the urinary tract. A plethora of imaging methods and treatment plans are described in literature and are used in clinical practice. The aim of our paper is to analyze the available diagnostic tests and the pharmaceutical, endoscopic and surgical options of our therapeutic armamentarium.

Methods: A literature search on the PubMed database was conducted by two writers. Randomised controlled trials and meta-analyses were included, all published in PubMed and in English language from 2011 to this day. After reviewing the full texts, we excluded duplicates, papers regarding secondary disease and those without a pediatric reference population.

Results: Regarding imaging tests, voiding cystourethrography is considered the reference method for the diagnosis and grading of the disease. However, it entails exposure of patients to ionizing radiation. Voiding urosonography is just as or even more sensitive than the reference method, but it's dependent on the operator's experience. Renal scintigraphy with DMSA remains a useful test for detecting renal scars, but the timing of the test is an area of disagreement. Although other diagnostic methods are available, data on their reliability are scarce and their use is limited. As far as management is concerned, the value of antibiotic prophylaxis, though questioned by clinical studies, remains a valid therapeutic option. Endoscopic methods, which use different bulking agents, have sufficient efficacy and an adequate safety profile. Classic surgical techniques and their modern – laparoscopic and robotic – variations are useful for dealing with high grade disease, with an acceptable rate of post-operative complications.

Conclusion: The diagnosis and treatment of vesicoureteral reflux are constantly evolving areas. New diagnostic methods are replacing the older ones, while the treatment algorithm is individualized.

EA 116 Impact of COVID-19 Pandemic on Re-test for Bladder Cancer

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Introduction: The COVID-19 pandemic has significantly affected people's lives and confined them to their homes. However, patients were forced to come to an area where their interactions with other people increased in order to be tested for suspected recurrence of bladder cancer, and so did their chances to get infected. We conducted a cross-sectional study to investigate the impact of the pandemic on attending for re-test of patients with bladder cancer.

Methods-Data: Initially a Case Report Form was made, which was used to collect useful data from each patient. To achieve better randomization, a second hospital in another part of the city was selected in order to obtain data from patients in different hospital environments with differences both in the compliance with COVID-19 restrictions and accessibility. Finally, the SPSS statistical package was used for data analysis.

Results: The results showed that there was a significant impact of the pandemic on patients' response to their appointments. More than 2/3 of patients postponed re-test for pandemic-related reasons. In particular, some had reservations about entering the hospital while in other cases the appointments were postponed by the hospital staff in order to better respond to the increase in patient numbers. Moreover, there seems to be correlation between postponement of appointments by patients and the demographics (eg educational level) and comorbidities of said patients.

Summary - Discussion: In conclusion, we assume that the postponement of re-examinations due to the pandemic will have a serious impact on the health of the patients under study. In the long run, the fact that patients were not consistent in re-examinations can adversely affect the prognosis of several diseases and result in high rates of relapsing. It remains to be seen whether these concerns will become a reality in the future.

Multidisciplinary Session

EA 050 S KETAMINE IN TREATMENT-RESISTANT DEPRESSION: EFFICACY AND SAFETY

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Introduction-Background: Intranasal S ketamine, marketed under the brand name Spravato, is a recently approved antidepressant drug (March 2019) oriented on treatment-resistant depression. Ketamine - which until recently was mainly used in anesthesia and analgesia - apparently seems to have remarkable antidepressant effects through its antagonistic action on NMDA receptors of nerve cells. The purpose of this study is to present the profile of S-ketamine in an aggregated manner with an emphasis on both its positive effects and its short- and long-term risks in depressed patients.

Methods-Data: For this review, we studied ketamine in a pharmacodynamic and pharmacokinetic level, its possible action mechanisms on NMDA receptors of pyramidal and other nerve cells, its metabolism, and the context in which its use is indicated, since it is a strictly in-patient drug. During our preparation, we examined particularly recent clinical studies that tracked the efficacy of the pharmaceutical substance and the observed side effects –mild or severe- in the participating sample.

Results: The initial clinical results of S ketamine seemed promising with its main feature being the relatively rapid effect and immediate improvement of the depressed patient over a few weeks only. However, constantly newcoming clinical studies demonstrate the multiple side effects of the drug, including hypertension, dissociation and also suicidal ideation, the avoidance of which is a fundamental requirement for the delivery of an antidepressant drug.

Conclusion/Discussion: In conclusion, intranasal S-ketamine seems as an antidepressant with multiple and important perspectives in the treatment of resistant depression, however it is necessary to conduct additional and more extensive and long-term clinical studies that will throw light on the exact "ratio" of efficacy / safety and therefore on the acceptable range of possible administration of this drug.

EA 073 IT IS DIFFERENT THAN IT LOOKS - A CASE STUDY

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Introduction: Identifying the clear causes of death is a challenging daily duty in Forensics. Hypothermia is a fatal situation due to sudden exposure of humans to low tempratures. Post – mortem findings might be similar to homicide deaths, thus differentiation through body examination should be held.

Methods: In this paper we are examining the case of an 87-year-old woman who was found in an inaccessible area of Northern Crete. The deceased was found naked in a fetal position with the clothes placed next to her, which raised the suspicion of sexual abuse and homicide, contributing the body´s transfer to the Laboratory of Forensic Sciences at the University Hospital of Heraklion for a forensic investigation.

Results: During the autopsy, no injuries to the external genitalia were found. Automatic hemorrhagic infiltrates in the upper extremities and knees, as well as microhemorrhages in the mucosa of the stomach and pancreas were detected. The deceased had no traumatic injuries suggestive of physical abuse or defensive injuries. The findings are consistent with unfortunate death from hypothermia.

Conclusion: Deaths from hypothermia are mainly caused in children and the elderly due to the sensitivity of organisms to low temperatures, where the mechanism of thermoregulation is abolished, bradycardia and end-stage hallucinations (Kaelte Idiotie) are caused with the final outcome being the image of atrial fibrillation that leads to death. The post-mortem findings are not specific but sufficient to put hypothermia as the cause of death since other causes of death have been excluded. The removal of clothes is the result of an illusion of heat due to the abolition of self-regulation of the thermoregulatory mechanism of the organism by the sudden drop in body temperature.

EA 070 CT-GUIDED TRANSFORAMINAL INTRATHECAL NUSINERSEN INJECTION IN ADULTS WITH SPINAL MUSCULAR ATROPHY TYPE 2 AND SEVERE SPINAL DEFORMITY. FEASIBILITY, SAFETY AND RADIATION EXPOSURE CONSIDERATIONS

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Introduction: To investigate our centre’s experience on CT-guided, transforaminal, intrathecal administration of Nusinersen in adult subjects with SMA type 2 and severe spinal deformity.

Methods-Data: This is a retrospective, single-center, study investigating the feasibility and safety of CT-guided, transforaminal, lumbar puncture for the intrathecal administration of nusinersen (Spinranza®; USA) in a cohort of adult subjects with SMA type 2, severe neuromuscular scoliosis and previous spinal surgery. Between January 2019 and October 2019, five male, adult, SMA type 2 subjects were eligible to be treated in our Center

with Nusinersen, The mean age of the patients was 31 ± 9 years (range 19- 43 years). Study's outcome measures were technical success, adverse events and radiation exposure.

Results: In total, four patients completed the four loading doses, while the fifth patient received only one loading dose; two patients also received their first maintenance dose. Overall, 20 consecutive transforaminal, intrathecal, treatments were analysed. Technical success was 100% (20/20 intrathecal infusions). No adverse events were documented following the procedures. Mean DLP value per injection was 665.4 ±715.5 mGy*cm. Estimated mean effective dose per injection was 12.7± 12.9 mSv. Subgroup analysis between the chronologically first 10 versus subsequent 10 procedures demonstrated a clear trend towards less radiation exposure in the latter, although this difference did not reach statistical significance (DLP: 984.7 ± 903.3 versus 436.7 ± 321.5 mGy*cm, p=0.165; respectively).

Conclusion-Discussion: In this retrospective series, CT-guided transforaminal access for intrathecal injection of nusinersen was proven feasible and safe. A decrease in radiation dose over time was noted. Protocols to minimize radiation exposure are essential.

EA 006 EMERGENCY SURGERY DURING THE COVID-19 PANDEMIC

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Introduction/Background: The Covid-19 pandemic is perhaps the biggest economic, social and health crisis in recent years, with many governments around the world deciding to perform only emergency surgeries to prevent the virus from spreading further. In this review, the guidelines that every employee in the health sector has to follow for the safety of themselves, but also of the patients, the criteria by which a surgery is considered emergent, but also the issues that arise from this decision, are mentioned.

Methods: A literature review was conducted using data derived from researches on global search platforms (PubMed, Google Scholar), meeting the following criteria: recent year of publication, English language and key words: emergency surgery, Covid-19 pandemic, emergent surgery, guidelines.

Results: The instructions, which include: (1) the safety of the staff- how to use the personal protective equipment, (2) performing emergency surgeries in a suspicious or positive Covid- 19 case, (3) the organization of an operating room, (4) the number of staff during surgery, (5) anesthesia, (6) evaluating a surgical case, and (7) addressing the most common causes of acute abdominal pain, were collected.

Conclusion/Discussion: Although it is clear that the healthcare system treats a very large number of patients with Covid-19 disease, the adjustments made are of most importance to the simultaneous care of people with high priority diseases not related to the pandemic.

EA 044 BRAIN AGING AND NEURODEGENERATION:THE KEY ROLE OF MITOCHONDRIA AND REDOX HOMEOSTASIS

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Introduction: Given the central role of mitochondria in energy metabolism and redox homeostasis, the study of mitochondrial defects is gaining increasing interest in revealing the mechanisms that lead to brain aging or neurodegeneration. The present review investigates the role of mitochondria in brain aging, suggesting that increased sensitivity of brain to oxidative stress and the sexual dimorphism are involved in mitochondrial function during aging.

Methods: The literature research was accomplished using the PubMed online database. Entries used were "mitochondria", "brain aging", "neurodegeneration" and were subject to title, abstract, or keywords including publications between 2000-2022. Twenty articles related to the study objectives were used.

Results: Endogenous oxygen free radicals produced by electron leakage from the respiratory chain promote the aging phenotype. Under physiological conditions, ROS production and detoxification are balanced due to antioxidant defense mechanisms and the dynamic mitochondrial fission, fusion, and mitophagy. During aging, increased ROS production and disorders in the antioxidant system cause oxidative stress with the first target of toxicity being the mitochondria. The post-mitotic and highly differentiated neurons are energy-consuming cells and highly sensitive to mitochondrial damage during aging. A sexual dimorphism can be observed in the mitochondrial function and is associated with hormonal stimuli. It has been reported that high levels of estradiol in females are protective against oxidative damage.

Conclusion/Discussion: Increased oxidative stress characterizes brain aging, with increased ROS production and antioxidant defense disorders. Mitochondrial dynamics protect cells from the accumulation of mitochondrial mutations. In a balanced system, aging is normal. However, when a pathological threshold is exceeded, attenuated mitochondrial dynamics lead to an accumulation of defective organelles, triggering a vicious cycle that causes neurodegeneration. The neurons' complexity and the sexual dimorphism further complicate the system. Understanding mitochondrial physiology could lead to the identification of therapeutic targets against neurodegeneration.

EA 122 ULTRASTRUCTURAL STUDY OF HEPATIC TISSUE AFTER INTRAVITREAL ADMINISTRATION OF ANTIFUNGAL DRUGS IN ALBINO NEW ZEALAND WHITE RABBITS

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Introduction: Fungal endophthalmitis is a severe and life threatening eye condition with multiple topical and systemic effects. Two of the major representatives of antifungal agents used to treat this condition are voriconazole and micafungin. The hepatotoxicity of these drugs after systemic use is well known.The aim of the present study is the ultrastructural study of their effect on hepatic tissue, after being intravitreally injected.

Methods-Data: Fifteen (15) albino white New Zealand rabbits were used, which were divided into five groups. At Group C (control group) intravitreal BSS solution was injected in a single infusion protocol. At the Groups V1 and V2, voriconazole was injected intravitreally (40 μg / 0.1ml) in a single and double infusion protocol, respectively. Groups M1 and M2 were administrated intravitreal micafungin solution (25 μg / 0.1 ml) in a single and double infusion protocol, respectively. Euthanasia was performed ten days after the last infusion and hepatic tissue samples were taken and prepared for ultrastructural observation.

Results: Mild untrastructural lesions were observed in all groups of administration of the two drugs. Vacuolization of hepatocytes was visible as well as the presence of macrophages between the hepatocytes in many cites. Increase of connective tissue in many cites was also visible in all groups with administration of drugs. These lesions were more extensive in the groups of double administration of voriconazole and micafungin.

Conclusion-Discussion: Our in vivo research has shown that even a single therapeutic dose of intravitreal voriconazole or micafungin can cause both histological and ultrastructural lesions at the hepatic tissue. However, it has not yet been investigated, whether these lesions are reversible, as a result further research is necessary.

EA 133 ULTRASTRUCTURAL STUDY OF IRIS AFTER INTRAVITREAL ADMINISTRATION OF VORICONAZOLE AND MICAFUNGIN IN ALBINO NEW ZEALAND RABBITS

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Introduction: Fungal endopthalmitis is one of the most dangerous and vision threatening infections. This condition is mainly treated with the intravitreal injection of antifungal agents. These include voriconazole and micafungin. Our research aims to elucidate the histological effects of voriconazole and micafungin on the iris tissue

Methods/Data: Fifteen albino New Zealand rabbits were used. A solution containing voriconazole (dosage 40μg/0,1ml) in protocol of single and double administration or micafungin (dosage 25μg/0.1ml) in protocol of single and double administration was intravitreally injected to the right eyes of the rabbits (groups V1 and V2), while both solutions were injected in combined protocol of double administration (group VM).
Balanced salt solution was intravitreally injected in the left eyes in protocol of single and double administration (Group C1,C2 - control groups). Euthanasia was performed ten days post injection and the iris was removed and prepared for histological examination with a light and electron microscope.

Results: Eosin-hematoxylin staining reduced the corrugation of the epithelium and revealed small damage in the rear area of the iris in groups V2, M2, VM, while in groups V1 and M1 the damage was minor. Electron microscopy revealed several ultrastructural alterations in collagen layers of the iris particularly in the groups with the double dosage.

Conclusion: Histological retinal lesions, revealed with electron microscopy in the present investigation, raise the question of the safe usage of these antifungal agents in the treatment of fungal intraocular infections.

EA 066 FACTORS INFLUENCING MEDICAL STUDENT'S CHOICE OF SPECIALTY AND OPINIONS IN ANESTHESIOLOGY

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Background: The unequal distribution of physicians between the various medical disciplines is a matter of serious concern in modern medical practice. The purpose of this study is to investigate the specialty preferences among medical students and the factors affecting their specialty choice, as well as their attitude towards Anesthesiology, a medical discipline in which in recent years there has been a worrying shrinking number of physicians.

Method: This is a cross-sectional study conducted between 26/12/2021 and 18/01/2022. The data were collected through an online questionnaire, which was addressed to students of various medical schools, who are attending the last three years of their undergraduate education. The questionnaire included 12 closed-ended questions, related to the basic demographics of the participants, their preferences regarding specialties, the factors that influence their choice, and their views on the Anesthesiology discipline. The data of the collected questionnaires were statistically analyzed.

Results: A total of 561 medical students responded (37.4% male and 62.6% female). The majority of participants (59.9%) had not yet decided which specialty to choose. Proportionately, Surgery discipline ranks as the first preference (28.2%), while Pathology gathered the highest percentage as the last preference (27.8%). The three most important determinants of students' choice are the scientific content, the quality of life, and the relationship with the patients. However, the influence of teachers, the duration of training in the specialty as well as family and social environment factors had no effect on their choice. Only 15.2% of students declared their wish to attend Anesthesiology, while an indistinct intention was recorded in 25.3% of them.

Conclusion: The choice of specialty is a multifactorial issue, which should be taken into consideration in an attempt to attract physicians in disciplines being understaffed. For Anesthesiology, in particular, is of utmost importance to accentuate its scientific content and enhance the undergraduate training program in its fields of activity.

EA 076 KIDS SAVE LIFE

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Introduction: Out of hospital cardiac arrest (OHCA) is the third-leading cause of death in industrialized countries with 6-10% probability of survival. Early initiation of cardiopulmonary resuscitation (CPR) by laypersons is essential, to improve the survival rates. A realistic and sustainable solution is to train a sufficiently large portion of the population in CPR. The most suitable group for this training are school children, whose main activity is learning, and who readily absorb new knowledge and skills.

Material: Project L.I.F.E.F.O.R.C.E. (Learning Initiative For Elementary school Fun Oriented Resuscitation Coaching Europewide) advocates the development of a learning methodology, educational tools and e-learning environment to pre-train pupils aged 6-10 years old in elements of CPR and choking management by using innovative activities, in preparation for proper training later on.

Results: The project is implemented in five phases. Initially, nursery and primary school educational systems in European countries were studied in order to develop a common framework for BLS training across Europe. Then the development of methodology to convert BLS skills into suitable, innovative educational activities for the target group was achieved. These activities include songs, storytelling, brainbox-like cards, educational videos, and other interactive applications.. The fourth output involves the Training the Trainers material which will enable the trainers to effectively deliver the educational content. The last part will include the development of the e-learning platform and an app to deliver the on-line learning modules, which will offer open access BLS knowledge to individual learners.

Conclusion: All these actions will help achieve the ultimate goal which is to train enough school children as first responders, to be able to significantly reduce the number of deaths related to OHCA in Europe, thus improving longevity and quality of life for European citizens.

EA 007 THE FUTURE OF 5G TECHNOLOGY IN HEALTHCARE

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Introduction: Healthcare technology is any technology designed to support healthcare services.

Materials/Methods: This paper is based on written literature and internet sources regarding the ever growing use of technology followed by the integration of the newly developed 5G technology in healthcare settings.

Results: The 5G which is the new generation of wireless communication constitutes a technological revolution that has the ability to change the way healthcare is provided.No one can ignore the potential of 5G networks such as the increasing reliability, quality and speed which is expected to be 100 times faster than that of 4G allowing the management of multiple connections in almost real time.As a result, 5G offers the opportunity to responding to patient needs with better accuracy, efficacy and lower costs in a larger scale.With these characteristics 5G can unlock the use of sensors and portable devices that will allow the monitoring of vital signs during the use of tele-medicine services.Furthermore, it can support the tele-access to surgeries facilitating the use of computer operated equipment that reenacts the movements of a surgeon that is in a different location in real time.This is an optimal solution for patients in secluded areas which under different circumstances would not have access to specialized medical treatment.

Conclusion/Discussion: In conclusion, healthcare systems can benefit from new technologies, such as 5G network in order to provide optimal care to the patient, offering personalized services of high quality while being cost and time effective.

AI in Medicine

OP 018 THE RISE OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE: A REVIEW OF CURRENT AND FUTURE APPLICATIONS

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Introduction/Background: The aim of this review is to present the basic technological pillars of Artificial Intelligence (AI) and its current and future applications in medical practice, while analyzing the opportunities, challenges and moral issues these applications may raise in the future. AI algorithms are currently applied in various healthcare areas from medical diagnosis, medical imaging and data analysis, precision medicine to drug discovery and development, as well as in medical visualization and education with the integration of augmented and virtual reality in Medical School programs.

Methods: This bibliographic review was conducted by using systemic reviews, meta-analysis and documents published between 2020-2022 , focusing on the latest AI applications.

Results: AI technology by operating in conjunction with the medical knowledge has been employed in multiple medical disciplines including radiology, oncology ,dermatology, genetics as well as in mental health and neurobiological research.More specifically, AI has the potential to improve the efficiency and accuracy of interpreting radiologic studies but also identify additional information not evident to the radiologists.Additionally, AI algorithms such as "AlphaFold", released by Google's DeepMind Technologies, were able to predict protein structures introducing a more cost-effective technique compared to lab analysis.In oncology AI technologies can also facilitate individualized cancer diagnosis and treatment. Moreover, AI-assisted robotic surgery is another rising field allowing surgeons to operate in a higher degree of precision and control.Finally,AI algorithms contributed to the COVID-19 pandemic with AI-equipped diagnostic medical imaging analysis ,vaccine development and AI-assisted public health decision-making.

Conclusion/Discussion: This review analyzes major AI applications in Healthcare by presenting specific examples of existing algorithms as well as future possibilities. AI will revolutionize the healthcare system, offer tremendous benefits but also it raises ethical, legal and social concerns regarding privacy protection, liability and appropriate use, which need to be addressed and regulated.

OP 004 COMPARATIVE EVALUATION OF ARTIFICIAL INTELLIGENCE-BASED ALGORITHM FOR AUTOMATED SEGMENTATION AND VOLUME MEASUREMENT OF THE RIGHT LATERAL SEGMENT GRAFT FOR LIVING DONOR TRANSPLANTATION

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Introduction: Living donor liver transplantation (LDLT) is an efficient alternative for deceased donors transplantation. (1) Due to the detailed donor selection LDTL is better for both donor safety and recipient survival. (2) While left liver graft might not always satisfy the recipient's metabolic demand, the use of right lateral sector (RLS) graft (RLSG) has become a feasible option. (3) Therefore, a volumetric analysis plays a crucial role in preoperative donor evaluation. (4) Computed tomography volumetry (CTV) is a gold standard method for that, but performing it manually demands expert knowledge, is highly time-consuming and prone to error. (5) We aimed to compare the accuracy of the method of fully automated artificial Intelligence-based (AI-based) RLS volumetry compared to manual (expert) evaluation.

Methods/Data: We conducted a retrospective monocentric study. There was performed a manual liver segmentation and CTV of abdominal venous phase images of 98 patients, excluding the RLS. Part of these images (n=80, 81.63%) was used for deep neural network training, the remaining group – for the automated segmentation validation and comparative analysis. Automated and manual methods were compared according to the Dice similarity score, relative volume difference (RVD) and absolute volume difference (AVD).

Results: A high similarity value was obtained between manually assessed RLS and AI-based volumetrics, according to the Dice similarity coefficient, on average 0.89 ± 0.05. The RVD between the above methods averaged 10.53 ± 10.92%, and the AVD was 62.66 ± 78.75 ml.

Conclusion/Discussion: AI-based fully automated volumetry of RLS is very close to manual assessment. Due to the speed and autonomy, automated AI-based volumetry after further developments and training with bigger datasets could become a new gold standard for donor evaluation and risk assessment for LDLT.

Cardiology

OP 006 PHYSICIANS AND PHARMACISTS INTERVENTIONS THROUGH TELEMEDICINE FOR ORAL ANTICOAGULANT THERAPY MANAGEMENT

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Background /Aim of the study: Oral anticoagulants are used in the prophylaxis and treatment of embolic events such as deep vein thrombus, pulmonary embolism, non-valvular atrial fibrillation, after prosthetic valve implantation. Bleeding due to non-compliance is very frequent. The purpose of the study is to compare the effects of doctors' and pharmacists' interventions through telemedicine for patients' oral anticoagulant therapy management. Method: A systematic search on PUBMED and Web of Science databases using keywords: (telecommunications /technology /computer /video /phone /messaging /digital technology /mobile /eHealth /telehealth /telepharmacy /telemedicine) AND "oral anticoagulants" AND (physician /pharmacist /doctor). Studies on oral anticoagulants' effectiveness management through telemedicine services were selected. Studies about non-telemedicine intervention, reviews, and duplicates were excluded.

Results: Of the 109 records, there were selected 5 articles on physicians' interventions and 4 articles on pharmacists' interventions. Both physicians and pharmacists use the same telecommunications for oral anticoagulant management such as emails, telephone communications, video conferences, and websites to record the patient's health report. These applications were being used either to remind the patients to do the INR tests in their home (specifically for patients who are in rural areas) or to come to the clinics, and to follow up with them through phone calls or videoconferences. However, few articles show differences between the approach of physicians and pharmacists interventions: incorporation of medical devices (mHealth devices) with physicians' management to keep the doctor in direct contact with the patents data, whereas pharmacists have been using the home drug delivery (HDD) telepharmacy approach.

Conclusion: All types of interventions have shown the same results on patient adherence, raising patient's knowledge and maintaining the INR in the normal ranges as well as preventing future complications. The way of interventions that differs: mHealth devices keep the doctor in direct contact with the patient's data, while HDD is used by pharmacists to monitor drug use.

OP 012 THE ROLE OF PERIOPERATIVE TRANSESOPHAGEAL ECHOCARDIOGRAPHY IN THE IMAGING OF CARDIAC MASSES

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Introduction: The purpose of this study is to highlight the benefits of TOE use in cardiac masses' resection. Preoperatively, TOE is used to study the morphology and the location of the mass, any possible involvement with heart valves and the proposed surgical approach. Intraoperatively, it highlights any possible complication. Postoperatively, it confirms the results of the operation.

Methods: Echocardiographic data of patients with cardiac masses were obtained from the Echo Lab of the Cardiothoracic Surgery Clinic at Patras' University General Hospital - preoperatively, intraoperatively and postoperatively. The machine used for these studies is the PHILIPS-CVx (2021) with 2D and 3D imaging. This is a primary, retrospective, clinical case study of 4patients, operated from June 2021 till March 2022. The demographic, clinical, laboratory characteristics of the patients are described below.

Results: An analysis of four patients (mean age of 50 y/o)was performed, who were studied with the above imaging methodology. Patient characteristics are listed in the form patient number/gender/age(years)/ultrasound findings/diagnosis/use of TOE:
1/Male/58/LA mass(3)(2)(4)(5)/LA Myxoma/Complete resection - no residual mass left
2/Female/40/RA Mass attached to an intracardiac Catheter for Dialysis/RA thrombus with fibrin attached to an intracardiac Catheter for Dialysis (involving TV septal leaflet)/Successful removal of the Catheter and thrombus, without emboli and preserved TV
3/Male/57/AoV mass (3)/AoV Fibroelastoma/Complete resection and preserved AoV
4/Female/45/LA appendage mass found in a patient scheduled for CABG/LAA Thrombus/Change of surgical plan (transatrial approach to LAA)

Conclusion/Discussion: Transesophageal ultrasound is an integral part of the modern Cardiac Surgery, for patients' benefit. Particularly, in the case of cardiac masses, their possible involvement with heart valves, the surgical approach and the confirmation of complete resection, enhances TOE's necessity.

OP 007 PROFILE OF THE PATIENT WHICH IS NOT ADHERENT TO THE NEW ANTICOAGULANTS

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Introduction/Background: Bleeding is one of the major risks and complications determined due to the non-compliance of the oral anticoagulants (1). New oral anticoagulants (NOAC) are preferred for prophylaxis or treatment maintenance of thromboembolic events (2,3). Objective: to review the most important factors for non-adherence in order to create a profile of a patient non-adherent to NOAC.

Methods: PUBMED and Web of Science databases were searched using keywords: "non-adherence", "NOAC". There were selected studies with interventions trying to identify the predictors of non-adherent patients to NOAC. Studies with incomplete data were excluded.

Results: There were selected 6 articles out of 135 articles. Nevertheless, adherence to NOACs should be close to 100% for the patients diagnosed with chronic cardiovascular disease or prior stroke, but 3 NOAC adherence trajectories were identified: consistently adherent, early discontinuation within 6 months, and gradually

declining adherence (4,5). The adherence cut-offs for good adherence depends on the drug (e.g., 0.78 for rivaroxaban, 0.8 for apixaban) (6), but other important predictors of nonadherence were female sex, older ages or higher CHA2 DS2 -VASc score (4,7), family income, employment status (8). Different interventions were tested to identify or change non-adherence: "adherence radar" (5) or "predictors of nonadherence" (PDC) (4,5) or pharmacokinetic/pharmacodynamic model for patients with NOAC to design remedial dosing regimens (9). Multiple regressions considering clinical variables and sociodemographic factors while measuring higher adherence to medication scores for patients that were using NOAC (an inverse correlation, if the usage duration is shorter, then the adherence is increased) (8).

Conclusion/Discussion: Although the adherence for oral anticoagulants should be increased year by year, this couldn't have been done without the NOAC, emphasizing the sex, family income, employment status or even the type of the outpatient follow-up.

OP 003 FLUOROLESS ABLATION OF CARDIAC ARRHYTHMIAS: IN FRONT OF A NEW ERA FOR CARDIAC ELECTROPHYSIOLOGY?

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Introduction: Catheter ablations for the treatment of cardiac arrhythmias are traditionally performed under the use of fluoroscopy. This method has the disadvantage of the exposure of both medical staff and patients to ionizing radiation with harmful consequences for the human health. However, during the last 15 years many new techniques have been developed and permit us to perform catheter ablations without the use of fluoroscopy. In this study we describe the safety, efficacy, and feasibility of this novel "fluoroless" approach in the treatment of cardiac arrhythmias.

Methods: This is a case series that presents 39 patients who underwent "fluoroless" ablation of their cardiac arrhythmias at the electrophysiology laboratory of Patras University Hospital. A retrospective analysis was conducted, examining data only from cardiac catheter ablation procedures performed without the use of fluoroscopy. The targeted arrhythmias included Atrioventricular Nodal Reentry Tachycardia (AVNRT), typical Atrial Flutter (AFL), focal Atrial Tachycardia (AT), and arrhythmias that involved accessory atrioventricular connections (Accessory Pathway, AP). All the ablations were performed relying only upon the use of Electroanatomic Mapping (EAM) and Intracardiac Electrograms (IE).

Results: The mean procedural duration was 123 minutes. The average number of ablation lesions performed was 11 with a range of 2 to 35 lesions. The mean follow up was 14,7 months. Recurrence rate for the AVNRT was 2,8% (1 patient out of 36). Only one patient with AT underwent ablation but there was recurrence of the tachycardia. In the patients with AFL and AP there were no recurrences. There were no complications. No deaths occurred.

Conclusions: Completely "fluoroless" ablations can be performed without putting in danger the safety, efficacy, and without compromising the feasibility of the procedure. By this way the harmful effects of radiation exposure are eliminated, and the procedure is safe even for pregnant women.

Keywords: Fluoroless, Nonfluoroscopic, Catheter ablation

Internal Medicine

OP 015 POLYGLANDULAR AUTOIMMUNE SYNDROMES: AN ATYPICAL PRESENTATION OF A RARE CLINICAL CASE

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Introduction: Polyglandular Autoimmune Syndromes (PAS) are a heterogeneous group of rare diseases characterized by the existence of at least 2 organ-specific autoimmune disorders (1,2,3). Herein, we describe an extremely rare case of PAS presenting three distinct pathologies: Diabetes Mellitus (DM) type 1, Graves-Basedow's disease and autoimmune hypoparathyroidism. To the best of our knowledge, a few such cases have been reported in the literature; however, none of them present such a long-term follow-up.

Methods: A 35-year-old woman presented in our out-patient clinic prior three years. She had been diagnosed with DM1, autoimmune hypoparathyroidism and Graves-Basedow's disease since the age of 7,9 and 11 years respectively. Chronic pharmacological therapy with tapazole was inadequate for treating her thyroid disease followed by a relapse; thus, total thyroidectomy was performed. Histologic examination demonstrated two foci of follicular variant of papillary carcinoma, and it was classified in TNM system as pT1N0Mx. One year later, the patient received radioiodine I-131 treatment. The most recent ultrasound examination demonstrated the presence of two hypoechoic and heterogenic areas. After combined therapy with levothyroxine & liothyronine, the patient appeared with good values of TSH, FT3 and FT4.
The patient had been treated with continuous subcutaneous insulin infusion (CSII) in manual mode over the past decade at another diabetes center. She presented in our clinic referring numerous hypoglycemic episodes mainly after breakfast and lunch and multiple hyperglycemic episodes (>350mg/dl) mainly during the night. HbA1c was 7.8%; insulin sensitivity factor: 90 mg/dl and time in range (TIR): 50%, time above range (TAB): 47%, time below range (TBR): 3% (8,9). Although diverse changes in basal insulin as well as the bolus one were performed, our patient still presented high glucose values variability, with typical hyperglycemic episodes after every meal. We, therefore, decided to treat the patient with insulin pump integrated with continues blood glucose monitoring (CGM), capable of suspending before an expected low or automatic insulin adjustment, with positive results. A clear increase in the TIR% and further reduction of hypoglycemic episodes were observed. During the one-year follow-up, an upgrade of the CSII was performed. After that, the glycemic profile improved significantly; with TIR: 75-80%, elimination of hypo-hyperglycemic episodes and reduction of HbA1.
The patient was under treatment with calcitriol and calcium carbonate to control her hypoparathyroidism.

Results-Conclusion: In conclusion, we report a complex PAS case suffering from DM type 1, Graves' disease and autoimmune hypoparathyroidism. The coexistence of several autoimmune diseases remains a critical problem, as it dysregulates the endocrinal and metabolic function. However, an individualized treatment improved considerably the prognosis and quality of life of our patient.

OP 017 IMMUNE EFFECTOR CELL-ASSOCIATED NEUROTOXICITY (ICANS): ESTABLISHING STANDARDS OF CARE

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Introduction/Background: Chimeric antigen receptor (CAR) T-cells have revolutionized the standards of care for patients with hematologic malignancies(1). CAR T-cells, however, are linked to a variety of CAR T-cell specific adverse effects, the least understood of which is immune effector cell-associated neurotoxicity (ICANS)(2) . The goal of this review is to investigate the current published literature on the recommended ways of managing ICANS.

Methods: We conducted a literature review in order to identify the standards of care for ICANS patients. In particular we conducted a PubMed search to identify which drugs and therapeutic protocols are either recommended or tested for ICANS.

Results: ICANS is observed at a frequency of 22% among patients receiving CAR T-cell therapies(3). According to the latest EBMT and JACIE guidelines, corticosteroids are considered the mainstay in ICANS treatment(4). When concurrent cytokine release syndrome (CRS) is present, tocilizumab administration is recommended(5), and ICU admission is recommended in grade≥3 ICANS (2,4). Lastly, in corticosteroid-resistant cases, anakinra(6), siltuximab(7) and intrathecal or systemic chemotherapy(8) can be utilized, although no consensus has been reached. Possible brain edema and seizures should also be promptly managed(9).

Conclusion/Discussion: Establishing the best practices for handling ICANS patients is still an active field of research, with many novel approaches being under development, such as elimination switches(10) and CRISPR/Cas9 constructed CAR T-cells(11). The early recognition of ICANS clinical picture(2,12), as well as establishing the Immune Cell Encephalopathy (ICE) score which directs proper therapeutic management(2,4) is of uttermost importance. It is also really important to establish common protocols when it comes to ICU admission criteria and handling protocols for ICANS(13) and to properly train everyone involved in ICANS patient care (14).

OP 002 A REVIEW OF RARE CASES OF ENDOMETRIOSIS IN MEN

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Introduction/Background: Endometriosis is a disorder of the female reproductive system in which endometrium- like tissue grows in sites outside the uterus mainly presented by abdominal pain. Up to date, 4 theories have been proposed for the pathogenesis, the most established one being the retrograde theory according to which blood from menstruation flows backwards to the fallopian tubes and ovaries. Peculiarly enough, there have been a few cases of endometriosis in men. This research aims to identify common patterns between the cases in men and compare them to the known model of endometriosis in women. Presuming that the correlation is adequate, the hierarchy of the known theories should be reevaluated.

Methods: A review of case reports in PubMed databases has been performed referring to endometriosis in men.

Results: During the investigation 16 cases were examined of patients with liver cirrhosis, obesity and prostatic adenocarcinoma treated with hormonal therapy. In addition, some patients with previous surgical history of hernia repair presented with the disease on the incision site. Endometriosis occurred in places involving the reproductive/urinary system (bladder, lower abdominal wall, and inguinal region) and was associated with elevated estrogen levels. Patients presented with pain on the associated region and upon immunohistochemical analysis stained strongly positive for estrogen receptor (ER), progesterone receptor (PR) and CD10. The aforementioned findings are consistent with endometriosis in women. Surgical resection was performed as curative treatment for all cases and hormonal therapy was discontinued.

Conclusion/Discussion: The preceding clinical results display similarities between the presentation of the disease in the two sexes and thus the pathogenesis should be interconnected. Eventually, the idea that the pathophysiology is based mainly on menstruation is discredited and emphasis should be placed towards an embryologic-based approach.

Public Health

OP 016 LANGUAGE IMPAIRMENT IN MALTREATED CHILDREN: NEUROPSYCHOLOGICAL CAUSES, LINGUISTIC OUTCOMES

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Introduction: Child maltreatment can have severe developmental consequences for its victims, including language difficulties. In the current review, the aim is to identify some neuropsychological causes for linguistic impairments in maltreated children while providing a detailed assessment of those language problems.

Methods: An extensive literature review of current and older research revealed a wide range of psychological and neurological consequences of child maltreatment. It is important to note that in the initial stages of the research, the sources used did not exclusively discuss linguistic impairment, but outlined an extended network of interrelated consequences of child maltreatment. Sources that provided linguistic outcomes were selected through this network and were further investigated.

Results-Conclusion: The review revealed a number of linguistic impairments attributed to maltreatment, including syntactic and verbal comprehension difficulties. Different linguistic challenges were present with different types of maltreatment. From a neuropsychological perspective, the role of stress in neural development was investigated, with a special focus on the hippocampus. The hippocampus' role was also explored in relation to language comprehension and production from a developmental perspective. The results of the research indicate that child maltreatment can have serious linguistic consequences and that stress plays an integral role in understanding how maltreatment affects the human brain. Moreover, it illustrates how maltreatment at different stages of a child's life may have different effects and how early intervention can promote resilience.

Keywords: child maltreatment, linguistic impairment, stress, HPA axis

OP 010 COVID-19 AND SCHIZOPHRENIA: THE IMPACT OF THE INFECTION ON THE COURSE OF THE DISORDER

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Introduction/Objectives: SARS - CoV -2 (Severe Acute Respiratory Syndrome - Coronavirus - 2 - Acute Respiratory Failure Syndrome) is known to cause acute respiratory syndrome and multiorgan complications especially in vulnerable groups. Specifically for schizophrenia (CNS neurodevelopmental disease), Covid-19 can have a negative impact on the course of the disease and its onset. The aim of this presentation is to

describe the effect of Covid-19 and the pandemic on the course of schizophrenia and the correlation between viral disease and disease manifestation.

Methods/Data: This paper is a comprehensive review of literature describing the effects of Covid-19 and the pandemic on schizophrenia. Understanding the impact of post- SARS - CoV- 2 schizophrenia and the risk of developing schizophrenia after a psychotic episode is crucial.

Results: SARS-CoV-2, like other viruses that have caused pandemics or endemics, causes neuropsychotic episodes and symptoms that can be identified with the clinical signs of schizophrenia. A review of the literature shows that the impact of the pandemic on schizophrenia firstly affects patients' attitudes and behaviors, and then the disease itself. Existing research data is constantly being reviewed and compared with new ones being added to the international literature, and in any case unconventional results may emerge.

Discussion: It has been shown that a link between Covid-19 and schizophrenia is possible. For patients suffering from schizophrenia and following a treatment regimen, the pandemic and SARS - CoV - 2 disease had adverse effects, and it seems that treatment of choice may increase the likelihood of contracting the virus. If the patient becomes ill with Covid-19, it may develop an acute psychotic episode and affect the course of schizophrenia. At the same time, forced incarceration and the social consequences of the pandemic are crucial because they are likely to have behavioral implications for treatment and the disease itself. The prevention and timely treatment of complications in schizophrenia is considered a catalyst for the course of the disease but also for the quality of life of patients.

OP 008 RISK DETERMINANTS OF STAPHYLOCOCCUS AUREUS CARRIAGE AMONG MEDICAL STUDENTS IN VILNIUS UNIVERSITY, LITHUANIA

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Introduction/Background: Staphylococcus aureus (S. aureus) is a frequent opportunistic pathogen related to community and hospital acquired infections and presents a real economic burden on the healthcare system worldwide. Medical students are considered as high-risk population. Determination of potential risk factors has undeniable importance in preventing the transmission of S. aureus.

Methods: The research was carried out at Vilnius University, Institute of Biomedical Sciences in the period from 1st of January in 2018 to 31th December in 2019. Nasal and pharyngeal samples were taken and S. aureus strains were identified using standard cultivation and identification methods. Respondents filled the adapted anonymous questionnaire on the risk factors determining S. aureus carriage. Data analysis was performed using R commander (3.6.2) and IBM SPSS Statistics 26.

Results: The analysis was conducted on 276 respondents while 100 of them were determined as S. aureus carriers. Male gender was determined as statistically significant factor for S. aureus colonization (OR=1.93; CI 1.13-3.30, p=0.015). Individuals who worked in health care institutions were more likely to be carriers of S. aureus than participants who had not worked in the health care sector in the last 2 years (OR=1.88, CI 1.07–3.30, p=0.028). Carriage of S. aureus was statistically significantly more common in individuals who brush their

teeth 3 times a day and more often than in those who indicated that they brush their teeth 1-2 times a day (OR=3.15, CI 0,99–10.85, p=0.024). Non-smoking respondents were found to be S. aureus carriers statistically significantly more often (OR=0.55, CI 0.30–0.90, p=0.034).

Conclusion/Discussion: The most significant risk factors influencing S. aureus colonization of the upper respiratory tract were determined as male gender, workplace related to health care facilities and frequent tooth cleaning.

OP 005 HERBAL PREPARATIONS AND LIVER: AN ALLY TURNED TO ENEMY

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Introduction: Lately, an increasing part of the population tends to consume herbal pharmaceutical preparations and dietary supplements (HDS). These substances are widely deemed to be safe and efficient, although they are not routinely being tested as conventional drugs. On the other side, an increase in the number of cases of liver injury attributed to herbal preparations (HILI) is being registered. This study aims to assess the association between HDS consumption and HILI presentation.

Methods-Data: Pubmed database was searched using the terms: “Herbs and hepatotoxicity”, “Herb-induced hepatotoxicity”, “Botanicals and hepatotoxicity”, “Herbs and liver injury”. Our search was limited to studies published from 2010 until today.

Results: In total 25 studies were included in this analysis. The results showed that people use HDS for bodybuilding, weight loss and health benefits. The percentage of liver toxicity cases attributable to HDS consumption reached 2-11%. Most commonly, HILI-related HDS include echinacea, green tea extract, St. John’s wort, aloe vera, valerian, greater celandine. The clinical presentation of HILI varies from asymptomatic to acute liver failure. Because of its non-specific symptoms, HILI is an exclusion diagnosis, reached through scoring scales such as the RUCAM/CIOMS score. This represents a scoring system which estimates the suspicion of causal relationship between the offending drug and liver damage.

Conclusion-Discussion: In conclusion, HILI is an upcoming healthcare problem calling for more attention and research. Therefore, conducting randomized control trials to evaluate safety and efficacy of HDS, and reinforcing the regulatory process for their consumption are required.

Surgery

OP 009 OUTCOMES OF PATIENT FOLLOW-UP AFTER SHOULDER HEMIARTHROPLASTY IN UNIVERSITY GENERAL HOSPITAL OF HERAKLION

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Introduction: Fractures of the proximal humerus in the majority can be treated conservatively with good results (1). More complex types of these fractures remain a controversy for optimal treatment. The objective of the present study was to evaluate reported outcomes of patients who underwent shoulder hemiarthroplasty (HA)

Methods: This study is a retrospective cohort study analysis of data from patients treated in University General Hospital of Heraklion. Between 2004 and 2020, 55 patients underwent shoulder HA after proximal humerus fracture. Patients were assessed with Disabilities of the Arm, Shoulder, and Hand (DASH) score and Shoulder Pain and Disability Index (SPADI). Hand dominance, age, gender, height, weight were also statistically analyzed.

Results: 29 patients (53, 58%) were able to return for the appropriate follow-up. Dominant hand was operated in 17 patients while 12 had the non-dominant one. There were 14 males and 15 females with a mean age of (65.9 ± 11.8 SD). Mean value for SPADI score was (35.94 ± 28.6% SD) and mean DASH score was (26.7 ± 22.5 SD). Statistically significant difference was observed between gender and SPADI scores (p value= 0.0014) where females reported poorer outcomes (51.3 ± 24.1% SD). Same significance was established between gender and DASH scores (p value= 0.0019) where females reported poorer results (38.5 ± 20.9 SD).

Discussion: This study was unable to correlate poorer outcomes on dominant arm as supported (2). No correlation could be established between obesity and poorer outcomes as previously reported (6)(7). Studies have supported that females show increased tuberosity nonunion (8) and are prone to revision of primary HA (9). In the present study statistically significant poorer outcomes were observed in females which indicates that they may be predisposed to functional disabilities and pain. However due to small sample more research is needed to further validate these results.

OP 013 LONG TERM RESULTS OF PERCUTANEOUS BALLOON COMPRESSION IN PATIENTS WITH TRIGEMINAL NEURALGIA RELATED TO MULTIPLE SCLEROSIS.

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Background: Multiple sclerosis related-Trigeminal Neuralgia (MS-TN) is a well-known disease representing 2-8% of all trigeminal neuralgia cases. Its management with either anticonvulsant medications or surgical procedures is accompanied with the risk of recurrence, side effects and complications. Percutaneous balloon compression (PBC) is an accepted method for the surgical treatment of medically refractory trigeminal

neuralgia secondary to multiple sclerosis. However, the recurrence of facial pain after a first successful PBC is common in MS patients after a few years. The long-term results of PBC remain to be established.

Methods: We conducted a single-center retrospective study including 40 patients with MS-TN who underwent PBC in order to relieve trigeminal pain during a 15-year period. Our institution is the only referral hospital in Greece providing a complete neurosurgical coverage for the treatment of trigeminal neuralgia, including microvascular decompression and percutaneous techniques.

Results: Immediate pain relief was observed in 95% of the patients after the initial procedure. Thirty-one patients underwent a repeat PBC due to pain recurrence with pain relief in 85% of them. Five patients underwent several procedures with well-accepted results. The most common complication was a unilateral mastication weakness, observed in 33 patients which was, however, resolved after 3 months in all these cases. Patient and caregiver satisfaction reached 78% and 86% respectively.

Conclusion: PBC is an effective and safe percutaneous surgical technique to treat MS-related TN. Moreover, it can be repeated with a similar rate of efficacy and a low rate of significant complications.

Keywords: Multiple Sclerosis, Trigeminal Neuralgia, Percutaneous balloon compression

OP 020 THE PLACE OF MOHS MICROGRAPHIC SURGERY IN CUTANEOUS MELANOMA

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Introduction: Mohs Micrographic Surgery (MMS) is a prominent technique in treating cutaneous malignancies, however the adoption in melanoma has been limited. Recently with the advent of new immunostains the use of MMS in MIS and MM has increased. The presentation aims to investigate the current and future place of MMS in the treatment of melanoma.

Methods: A comprehensive review of the literature was conducted using PubMed with keywords and their combinations: “melanoma”, “Mohs”, “Mohs micrographic surgery”, “wide local excision”, “immunostains”. Publications were included from 1977 to the present.

Results: From its conception MMS had been utilized in melanoma, nonetheless the acceptance has been smaller in melanoma compared to keratinizing skin malignancies. Patients with melanoma treated with MMS had similar or superior outcomes in terms of survival compared to the gold standard of wide local excision, evidence is especially favorable for MMS in the treatment LM and LMM. Furthermore, there is evidence of lower recurrence in melanoma treated with MMS compared with WLE, potentially resulting from better assessment of the margins. MMS’s tissue sparing approach enables better aesthetic results in highly visible areas, and may be more cost effective compared to WLE. The main primary drawbacks of the technique lie in the interpretation of the biopsies, as the frozen sections of MMS have been considered inferior to the permanent sections of WLE. The issue may be ameliorated with the creation of manifold new immunostains which allow for excellent interpretation of frozen sections in melanoma.

Conclusions: The place of MMS in melanoma has evolved since its first application. Evidence suggests at least non-inferiority of outcomes compared to the gold standard of WLE. Currently, further studies which will

account for the developments in MMS are needed in order to update the place MMS in the context of melanoma.

OP 011 LOW OPIOID ANAESTHESIA PROTOCOL REDUCES INTENSITY OF POSTOPERATIVE PAIN

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Introduction: Postoperative pain therapy is one of the aspects in perioperative care.
Objective of the study: The aim was to determine the influence of the low opioid anesthesia protocol on the incidence and intensity of postoperative pain after laparoscopic cholecystectomy.

Material and methods: The study group consisted of 39 patients anesthetized according to the low-opioid protocol (using the coanalgesics: ketamine, lidocaine and magnesium sulphate), and the control group consisted of 37 patients (general anesthesia with fentanyl as the main analgesic). The incidence and intensity of postoperative pain was assessed using a 10-point numeric scale (NRS) questionnaire within 24 hours after surgery - at the time points: first 2 hours, between 2 and 6 hours, 6 and 12 hours, 12 and 24 hours after surgery.

Results: The incidence of postoperative pain was 90%, 82% in the study group and 100% in the control group. In the study group, the highest median pain in the NRS was 3 and occurred within the first 2 hours, while the lowest median pain in the NRS was 1 and occurred between 12 and 24 hours after surgery. In the control group - the highest median pain was NRS 4 and occurred in the first 2 hours, between 2 and 6, 6 and 12 hours, where the lowest median pain was 3 and occurred between 12 and 24 hours after surgery. There were significant differences in pain intensity between 2 and 6 hours ($p = 0.001$), 6 and 12 hours ($p = 0.001$) and 12 and 24 hours after surgery ($p = 0.0001$). There was no evidence of an effect of the total dose of fentanyl on the intensity of postoperative pain in the control group.

Conclusions: The use of the proposed low opioid anesthesia protocol was safe and reduced the intensity of postoperative pain within 24 hours after laparoscopic cholecystectomy.

OP 019 BARIATRIC SURGERY AND THE VALUE OF NEUTROPHIL-TO-LYMPHOCYTE RATIO IN PREDICTION OF SEVERE COMPLICATIONS

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Introduction: Bariatric surgery was proven to be the most effective obesity treatment (1). However, co-morbid conditions in obese patients contribute to the incidence and severity of complications after intervention (2).

Assessment of postoperative adverse outcomes, based on preoperative parameters seem to be crucial for surgeons in qualification process. The neutrophil-to-lymphocyte ratio (NLR) which reflects systemic inflammation and organ dysfunction has been recently described as a prognostic marker to predict complications following variety of surgical procedures (3)(4). We aimed to validate preoperative NLR as the predictor of 30-day severe complications after bariatric surgery.

Methods-Data: The retrospective analysis included patients who underwent Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG) and completed 30-day of follow-up. The NLR was calculated for each patient. The evaluated outcome was postoperative complications graded 3 or more in Clavien-Dindo Classification. The NLR relationship with adverse outcomes was assessed by logistic regression. Discrimination was evaluated by area under the receiver operating characteristic curves (AUROC) whereas calibration by Hosmer–Lemeshow test (5)(6).

Results: Out of 1402 patients enrolled 919 (65.55%) were women whereas 483 (34.45%) were men with mean age 43.17 years and mean BMI of 45.19. 77.10% of patients underwent SG whereas 22.90 had RYGB. The most common comorbidities were: dyslipidemia (72.90), hypertension (64.98%), and diabetes (29.74%). Mean NLR amounted to 2.02. Severe complications occurred in 2.57% of cases.
NLR had statistically significant capability of identifying severe adverse outcomes in logistic regression analysis (OR 0.15; $p<0.0001$). Moreover, it reached acceptable discrimination with AUROC= 0.72 and did not lose its goodness-of-fit in Hosmer–Lemeshow test ($p=0.20$)

Conclusion-Discussion: NLR is a promising tool for the assessment of severe complications after bariatric surgery. Further prospective studies are needed to validate our findings.

Keywords: bariatric surgery; severe complications; neutrophile-to-lymphocyte ratio; sleeve gastrectomy; Roux-en-Y gastric bypass;

OP 014 CARCINOID TUMOR OF THE ILEOCECAL VALVE: A CASE REPORT

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Introduction: Carcinoid tumors are uncommon, slow-growing, well-differentiated neuroendocrine tumors of the gastrointestinal tract, infrequently presenting with any specific clinical symptoms. Although relatively uncommon, carcinoids should still be included in the differential diagnosis as they are frequently misdiagnosed for another pathology of the ileocecal valvular area.

Data/ Case: The authors present a case of carcinoid tumor of the ileocecal valve and focal lesion in the mesentery of the small intestine. The patient presented with symptoms of abdominal pain, vomiting, and constipation along with a 5kg unintentional weight loss in the past 3 months. Right hemicolectomy, cholecystectomy, and peritoneal cavity drainage were performed. It was identified that the tumor had spread to all layers of the intestinal wall and 7 of the 23 excised lymph nodes were metastatic. The patient continued to follow up after surgery in the oncological clinic and is symptom-free two years after.

Results: Although NETs (neuroendocrine tumors) are most frequently located in the gastrointestinal tract, they continue to cause difficulty in diagnosis as they are not frequently included in the differential diagnosis

and continue to be very rare. There have been only 10 case reports which have presented with a neuroendocrine tumor in the ileocecal area and have been published in PubMed in the past 10 years.

Conclusion: Carcinoids are frequently diagnosed incidentally but should always be considered in the differential diagnosis of ileocecal valve pathologies. Surgical removal of neuroendocrine tumors is usually curative and remains the gold standard of treatment. An early and radically performed surgical intervention provides an opportunity to prolong and improve patient survival.

AA 001 REEMERGENCE OF EPIDEMICS AND ANTI-VACCINATION MOVEMENT

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Introduction: The espousal of anti-vaccine ideas from a significant portion of the population and the concomitant vaccine denial for infectious diseases that were until recently eradicated, have led to the emergence of epidemics worldwide. The aim of this review is to highlight the formation , the extent and the consequences of the anti-vaccine movement, through data.

Methods: Research for the review was done with the use of keywords, selection of data for epidemics that are related to infectious diseases where vaccination is recommended or mandatory and use of data from respected scientific sources.

Results:
•Netherlands (1992-1993)-71 cases of measles
•Nursing home, Oklahoma (1996)- 11 cases of pneumococcal pneumonia out of 83 residents
•California (2014-2015)-125 cases of measles related to one single case
•Greece (2010)-126 cases of measles
•Greece (2014-2015)-3192 cases of measles
(+statistics)

Conclusion/Discussion: It is apparent from the results, that in areas with low vaccination rates, micro-epidemics of infectious diseases that were eradicated due to mass vaccination, are observed. Mention of factors that could aid in the phenomenon. Evidently, vaccination denial, which has become more extensive today, has a significant impact on public health.

AA 002 GUT MICROBIOTA AND PSYCHIATRIC DISORDERS: IS THERE A CORRELATION?

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Introduction/Background: Psychiatric diseases are a scourge of today's society and unfortunately, the existing preventive and therapeutic options do not have the expected effectiveness, in many cases due to drug resistance or nonadherence. In this review, the role of the gut microbiota in psychiatric disorders, which seems to affect many signaling pathways of the nervous system, is examined.

Methods: A literature review was conducted using data derived from researches on global search platforms, meeting the following criteria: recent year of publication, English language and key words: gut microbiota, psychiatric diseases, probiotics, antibiotics.

Results: 5 studies were selected, which concern autism disorder, schizophrenia, attention deficit/ hyperactivity disorder and depression. In most cases, alterations of the gut microbiota were discovered, either

due to eating habits (Mediterranean diet was a protective factor) or due to iatrogenic interventions and pathologies (taking antibiotics, infections). Specific bacteria, such as Bifidobacterium and Lactobacillus, were found to be less in depressed patients compared to healthy individuals. In addition, the discharge of major neurotransmitters that play a key role in the pathophysiology of diseases (eg dopamine in schizophrenia, serotonin in depression) has been shown to be influenced by microbiome elements. Lactobacillus rhamnosus helps in the discharge of the GABA neurotransmitter, while Lactobacillus reuteri helps in the discharge of oxytocin. In Vendrik et al., fetal transplantation appears to reduce the severity of neurological symptoms in patients with autism. Finally, in a placebo-randomized study by Tran et al., it appears that taking probiotics reduces the feeling of anxiety.

Conclusion/Discussion: Gut microbiota alterations appear to play a major role in the development of psychiatric disorders. Rebalancing and maintaining it with a healthy diet, using probiotics and avoiding overuse of antibiotics could aid thousands of people, either through prevention or as a treatment. Further randomized trials are required, in order to gather more data on this promising subject.

AA 003 ERCP - 20 YEARS LATER

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Introduction/Background: Endoscopic retrograde cholangiopancreatography (ERCP) is a complex endoscopic method using radioscopy to visualize and perform biliary therapies. The purpose of this study was to present the data from the ERCPs performed at the clinic in the year 2021 and compare them with the data of 2001.

Methods: Retrospective ERCP data collected and studied at our clinic during the period January - September 2021 were collected and studied. The data were compared with 263 ERCPs performed at the same clinic in 2001.

Results: A total of 253 ERCPs were performed. 49% (N = 124) of the patients were male and 51% (N = 129) were female. The mean age of patients was 72 years (± 15) with a predominant age group of over 80 at 39% (N = 98). The average duration of the procedure was 29 minutes (range 10-90). 40% of cases had previously undergone MRCP. 86% had received at least 1 antibiotic preoperatively, 49% had received another medicine and 38% had received anticoagulant, clopidogrel or aspirin before ERCP. Successful bile duct catheterization was achieved in 234 patients (92%). Postoperative complications occurred in 24 patients (9.4%) with pancreatitis being more common in 14 patients (6%), sepsis - cholangitis in 6 (2.5%) and bleeding within the first five days in 4 (1.6%). Two patients died (1 due to sepsis and 1 due to perforation after ERCP). Compared to 2001 data, no statistically significant difference was observed in patient characteristics and clinical outcome: mean age 70 ± 14 years), successful bile duct catheterization 89.3%, after ERCP pancreatitis 6.9%, cholangitis 3.2 % and 0.4% perforation respectively. Mortality remained low, unchanged at 0.4%. The percentages, although they differ slightly, are not statistically significant with x2 test, i.e., the successful catheterization 233/261 and 234/253 (p = 0.2).

Conclusion/Discussion: ERCP is a useful method with a diagnostic and invasive role that responds to a variety of pathological conditions but is accompanied by a significant rate of failure and complications. After two

decades and despite the use of more advanced materials and the experience gained by therapists, the success of the operation and the outcome of the patients do not seem to have changed.

AA 004 LAPAROSCOPIC RIGHT COLECTOMY WITH COMPLETELY INTRACORPOREAL ANASTOMOSIS- THE EXPERIENCE OF PATRAS UNIVERSITY SURGICAL CLINIC 2015- 2021

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Introduction/Background: Laparoscopic right hemicolectomy is a minimally invasive procedure offered for the treatment of benign and malignant diseases located in the right colon. Intracorporeal anastomosis offers the patient the advantages of laparoscopic surgery without increasing postoperative complications. The purpose of this study is to highlight the experience of our clinic on this technique.

Methods: The cases of 45 patients who underwent laparoscopic right colectomy during the period 2015-2021 by the same surgeon were studied. All anatomical preparations were made using an energy source, metal clips were used to ligate the vessels. The anastomoses were made completely intracorporeal using a straight cutter and the holes were closed with continuous suturing.

Results: Out of all patients (N = 45) 30 were men (67%) and 15 women (33%). The mean age of the patients was 70 years (±11). 91% of cases (N = 41) involved malignancies of which 59% Ca ascending colon, 29% Ca cecum, 10% Ca transverse colon, 2% appendiceal carcinoid and 9% benign diseases (cecum or ascending colon polyps). 91% underwent laparoscopic right hemicolectomy with ileo-transverse anastomosis and 9% underwent laparoscopic right extended colectomy with ileo-descending anastomosis. The average duration of the procedure was 160 min (range 80-280 min). The median duration of hospitalization was 7 days (range 3-19 days). Complication was detected intraoperatively in 1 case and 3 of the 45 patients had to be transfused. 5 patients presented with postoperative complications (11%) and one death occurred (2%).

Conclusion/Discussion: Laparoscopic right colectomy with completely intracorporeal anastomosis provides the patient with all the advantages of minimally invasive surgery without significant complications. The optimization of the technique is associated with the learning curve.

AA 005 EFFECT OF PHYSICAL EXERCISE INTERVENTION ON COGNITIVE FUNCTIONS IN MILD COGNITIVE IMPAIRMENT

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Introduction: Mild Cognitive Impairment (MCI) is an intermediate state between normal age-related cognitive decline and dementia, characterized by an impairment in memory and/or other cognitive functions. The aim

of this study is to examine the effect of physical exercise on cognitive functions in MCI patients and the mechanisms involved.

Methods-Data: PubMed was searched until December 2021 using the key words: mild cognitive impairment, dementia, neurodegenerative, physical exercise, physical activity.

Results: A total of 21 articles were included. Physical exercise was shown to improve global cognition in MCI patients. Executive functions, memory, visuospatial ability, and language were likewise found to improve to various extents, with executive functions being the most responsive. Furthermore, physical exercise was effective in improving non-cognitive domains, such as neuropsychiatric symptoms and disability. It has been speculated that these benefits can be attributed to raised levels of growth factors (BDNF, IGF-1), regulation of inflammatory cytokines (IL-6, IL-10, TNF-a), increased blood flow, reduction of oxidative stress, modulation of the cholinergic system, regulation of mitochondrial function, increased amygdala's volume, and regulation of cardiovascular and metabolic risk factors. These findings suggest that exercise intervention may also be beneficial for post-COVID-19 syndrome rehabilitation due to its cardiopulmonary and cognitive effects. The types of exercise examined were aerobic, resistance, multi-component, and mind-body intervention engaged in variable duration and intensity; multi-component exercise and high-intensity sessions displayed better results in cognitive functions.
The cognitive benefits of exercise pose a dose-response relationship.

Conclusion-Discussion: Physical exercise may improve global cognition and most cognitive domains. Future studies should thoroughly examine the effect of specific types of exercise on cognitive domains, the suggested duration and intensity, the target population, and the physiological mechanisms involved.

AA 006 ULCERATIVE APHTHOUS LIKE LESIONS OF ORAL MUCOSA AS A MANIFESTATION OF SYSTEMIC DISEASE

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Introduction: Recurrent aphthous ulcers are among the most common lesions of the oral cavity.

Methods/Data: From February to April 2021, foreign language and Greek scientific articles were collected, in order this abstract to be written. Appropriate sites such as Pubmed were the source of the bibliography. Also, the following keywords were used: oral aphthous-like ulcers, Recurrent aphthous ulcers, Systemic diseases.

Results: Aphthous may also constitute manifestation of systemic diseases, such as idiopathic bowel diseases (ulcerative colitis and Crohn's disease), hematological disorders (neutropenia), periodic fever syndromes, connective tissue diseases, and cutaneous diseases (lichen planus, pemphigus, pemphigoid).

Conclusion/Discussion: Thus, in depth investigation of oral aphthous like ulcers, leads to correct diagnosis and to effective treatment.

AA 007 ORAL MANIFESTATION IN CROHN'S DISEASE

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Introduction: Crohn's disease is a systemic disease which can manifest itself in the form of lesions on the oral mucosa. The frequency ranges from 5-20% and increases in childhood where they can be an early manifestation of the disease.

Method: The search of bibliographic sources was carried out from June to July 2021. The bibliography consists of scientific literature (written in Greek and other foreign languages) which were found in Pubmed like search engines. Some of the basic keywords were: Crohn's disease, Systemic diseases, lesions resembling aphthae.

Results: Crohn's disease, an idiopathic inflammatory bowel disease, affects the entire gastrointestinal tract, predominating the small and large intestine. Early oral manifestations of the disease include superficial to deep linear ulcers, resembling aphthae. When the lesions are in the buccal mucosa, they have a cobblestone-like appearance, which is a characteristic manifestation. Pyostomatitis vegetans is also a possible manifestation.

Conclusion-Discussion: Lesions observed in the oral cavity can vary in origin and may not necessarily be caused by Crohn's disease. Early diagnosis by a dental specialist can help to choose the appropriate treatment.

AA 008 MENTAL AND PHYSICAL FACTORS ASSOCIATED WITH CARDIOVASCULAR RISK AMONG TAXI-DRIVERS IN GREECE

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Introduction: The literature has highlighted the high prevalence of cardiovascular disease and the high risk of developing mental illnesses in taxi drivers. In Greece, there is no published study focusing on this population regarding to the mental and physical health factors associated with cardiovascular disease. Thus, the purpose of this cross-sectional study was to investigate these factors in taxi drivers in Greece.
Method - Data: A questionnaire of three sections was designed [a. Demographic section b. Depression, Anxiety and Stress Scale (DASS21) c.Type-A Questionnaire]. The distribution and collection of the questionnaire was carried out online with the help of taxi drivers' associations throughout Greece. The analysis of the results was performed with the statistical processing program IBM SPSS Statistics27.
Results: Answers were collected from 1083 taxi drivers with an average age of 45 ± 9,254 years, mainly men (97%). In this sample, 61.1% work more than 10 hours/day. 27.4% reported being diagnosed with hypertension, 34.5% with dyslipidemia, 9% with a mental illness and 19.7% reported angina symptoms in the last six months. 50.4% are active smokers, 43.3% do not exercise at all, while the average BMI is 29.48 ± 5.16. Correlations were detected between the occurrence of hypertension, dyslipidemia, diabetes mellitus, stable angina and the characteristics of their job (hours of work, income satisfaction, taxi rental). There were also correlations between DASS21 total score and cardiovascular risk factors (hypertension, dyslipidemia, persistent angina), lifestyle factors (smoking, exercise) and job characteristics (hours of work, income satisfaction).
Conclusion - Discussion: Taxi drivers are characterized by several cardiovascular risk factors related to their job characteristics. At the same time, the correlation between these factors and the occurrence of mental

illness is pointed out. Thus, it is considered necessary to create campaigns to inform them about the prevention of cardiovascular disease and the importance of mental health.

AA 009 RHEUMATOID ARTHRITIS, HOW IT AFFECTS AND IS AFFECTED BY THE PATIENT'S DAILY LIFE

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Introduction: Rheumatoid arthritis is a chronic, systemic, inflammatory multisystemic, autoimmune disease, which is characterized by persistent inflammatory folliculitis that usually affects the peripheral joints with a symmetrical distribution. It is characterized as an evolutionary disease of unknown etiology Its main feature is symmetrical polyarthritis, which affects a variety of small and large joints.

Methods: The diagnostic criteria are arthritis depending on the type and number of affected joints, rheumatoid factors, or autoantibodies against citrullinated proteins, erythrocyte sedimentation rate or C-reactive protein and the duration of arthritis. According to a system of calibration of the above criteria, where the highest possible score is 10, a diagnosis is made for a score of at least 6.

Results: In the serum of patients are found rheumatoid factors, autoantibodies (mainly IgM) specifically against the stable part of IgG immunoglobulin secreted, inflamed joints, and autoantibodies against citrullinated proteins or peptides, which cause inflammation through the activation of immune cells. Initially, the native immune system is activated by secreting cytokines and chemokines into normal joint's tissue and recognizing the HLAII molecules by autoantibodies, resulting in T-cell activation (mainly T-helpers), interaction with other immune system's cells and joint's cells (e.g. chondrocytes, osteoclasts) and in collaboration with their products (e.g. cytokines, metalloproteinase s) participate in the inflammatory process and cause chronic synovial inflammation, destruction of the synovial membrane, cartilage and bone destruction.

Discussion: Rheumatoid arthritis is a multifactorial disease whose etiopathogenesis has not been fully elucidated. The treatment effectiveness, depending on early diagnosis, is based on the known pathogenic mechanisms. The aim of the treatment is to send the disease into remission because it is not possible to be cured. Therefore, there is great research interest in this common but at the same time mysterious disease.

AA 010 MULTISYSTEM INFLAMMATORY SYNDROME (MIS-C) IN CHILDREN WHO WERE HOSPITALIZED IN THE UNIVERSITY GENERAL HOSPITAL OF PATRAS

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Background: The multisystem inflammatory syndrome in children (MIS-C) is a rare but severe hyperinflammatory condition that may occur following SARS-CoV-2 infection.

Methods: This is a retrospective, descriptive study of patients hospitalized with MIS-C in the tertiary University General Hospital of Patras from March 2020 to December. Demographics, clinical and laboratory characteristics, treatment and outcome are described.

Results: Seven patients (6 males, median age 14 years, IQR 4.5-13.5) were included and all of them met the criteria of the WHO case definition of MIS-C while 1/7 (14.2%) had positive PCR test and all of them had serological evidence of SARS-COV-2. From the seven patients all of them presented with fever and gastrointestinal symptoms, 85.5% mucocutaneous involvement and none of them had respiratory symptoms. Two (28.5%) developed myocarditis, one (14.2%) pericarditis and two (28.5%) coronary aneurysms. In the above cases cardiovascular complications subsided in all patients at discharge except one where the aneurysm remained after the end of hospitalization. Median CRP, ferritin and WBC values were 17.70mg/L (IQR, 15.32-21), 1211ng/ml (IQR,388-1456), 14460/mm3 (IQR,12140-16610), respectively. The majority of patients had elevated troponin (5/7, 71.4%). Intravenous immunoglobulin was administered to all patients, corticosteroids to 6/7 (85.5%) and anti-IL1 treatment (anakinra) was added in 2/7 (28.5%). None of the patients developed shock, needed ECMO or died .

Conclusions: MIS-C is a novel, infrequent but serious disease entity. Most common cardiac manifestations included myocarditis and pericarditis, which resolved in all of our patients. Immunomodulatory therapy was shown to be effective however residual cardiac involvement remains an issue. Further research is required to elucidate the pathogenesis, risk factors and optimal management.

AA 011 ACUTE HEADACHE IN CHILDREN

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Introduction: Headache is a common reason for pediatric patients to visit the hospital. This review analyzes the various classifications of headache, the diagnostic approach and the basic methods of treatment. Its purpose is for the reader to be able to identify the symptoms and signs that are associated with urgent and life-threatening conditions and which manifest as acute headache.

Method: The present study is a review for which a literature research was conducted on PubMed from which we selected articles from the last twenty years, which are related to the clinical presentation, differential diagnosis and treatment of headache in children.

Results: Headaches are classified according to the time period from the onset of symptoms into acute, acute recurrent, chronic non-progressive and chronic progressive. Another classification system characterizes headache as primary and secondary and secondary headaches in turn are divided into of traumatic and non-traumatic etiology. According to the above, the differential diagnosis of headache includes nosological entities such as: upper respiratory infections, CNS infections, head trauma, intracranial processes and others. The diagnostic approach includes obtaining a complete medical history, a thorough clinical examination of the child, laboratory testing and in some cases a lumbar puncture or imaging method is required. Of particular significance is the identification of signs/red flags which indicate serious pathological entities and need extra attention.
In terms of treatment, the best immediate intervention is to put the patient into a shady and quiet room where he/she can rest. Symptomatic treatment includes NSAIDs. In the case of secondary headache, treatment is based on addressing the underlying cause.

Conclusion: Acute headache in children is usually due to a treatable condition and can be treated easily. It is, however, very important to know its differential diagnosis and to be able to identify those symptoms that accompany life-threatening situations in order to proceed with the necessary actions to deal with them.

AA 012 MOYA-MOYA SYNDROME IN A PATIENT WITH GRAVES' DISEASE: A CASE REPORT

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Introduction: The term "Moya-moya" refers to the angiographic appearance of a "cloud" of collateral vessels that develop in response to stenosis of the distal internal carotid artery(ICA), proximal MCA, and/or proximal ACA. Moyamoya disease refers to an idiopathic (presumed genetic) etiology whereas the pathophysiology of moyamoya syndrome seems to be developed in response to another cause of vessel occlusion such as prior radiation treatment or other inflammatory and non-inflammatory vessel diseases.

Case Presentation: We are describing the clinical case of a 45 years old woman who presented with right face and hand numbness and clumsiness whereas she had a history of hyperthyroidism. Clinical examination showed elevated Blood pressure, tachycardia, right arm drift and hyperreflexia. Blood tests showed decreased thyroid stimulating hormone (TSH) levels (<0,01), elevated T3/T4 and existence of raised serum antibody titer of autoantibodies against thyroglobulin. Magnetic resonance imaging(MRI) demonstrated a left cerebral infarction while magnetic resonance angiography(MRA) and digital subtraction angiography(DSA) showed stenosis of supraclinoid segment of ICA bilaterally which leads to the "puff of smoke" of the collateral network, an appearance that conforms with moyamoya syndrome. The treatment of the patient included antithyroid medication, aspirin, statin. Lastly, she underwent a plasmapheresis procedure with stabilization of her clinical condition.

Conclusion: Moya-moya syndrome is rarely associated with Graves' Disease, an autoimmune disorder which leads to hyperthyroidism. This phenomenon of the stenosis of intracranial segments of ICA can be the result of antithyroid antibodies affecting the vascular endothelium and the tunica media. As a result, it is very important that clinicians must include Graves's disease in their etiological differential diagnosis of moyamoya syndrome because an early diagnosis can lead to a more aggressive treatment, including plasmapheresis, but also to the stabilization of the neurological syndrome.

AA 013 SYSTEMIC MASTOCYTOSIS WITH AN ASSOCIATED HAEMATOLOGICAL NEOPLASM: A REVIEW OF LITERATURE OF AN UNDERDIAGNOSED RARE PHENOMENON WITH CLINICAL AND PROGNOSTIC IMPLICATIONS.

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Introduction/Background: Mastocytosis constitutes a rare haematological malignancy derived from mast cells. As for the location, mastocytosis is distinguished in cutaneous and systemic mastocytosis. One recently recognized, often underdiagnosed, subtype of systemic mastocytosis is systemic mastocytosis with an associated haematological neoplasm. For this rare subtype, the available data remain restricted.

Methods: The literature used was exclusively in English and the data were collected by the Pubmed database. The studies described and analysed this specific entity, the clinical features, the possible pathogenetic mechanisms, the diagnostic process, and treatment.

Results: According to the available data, in most cases, a myeloid disease of non-mast cell lineage was detected, such as acute myeloid leukemia, with main subtype the chronic myelomonocytic leukemia, a myelodysplastic syndrome or a myeloproliferative neoplasm. Rarely, the detected neoplasm was of lymphoid lineage (multiple myeloma, lymphoma) with few reported cases.
At the majority of the described cases, the two neoplasms were synchronous and the mutation KIT D816V (Asp-816-Val) was detected, both in the neoplastic mast cells and the associated haematological neoplastic cells.
Tree pathogenetic mechanisms have been proposed to elucidate this rare phenomenon. The first mechanism mentions the existence of a common neoplastic progenitor cell that carries the activating KIT D816V (Asp-816-Val) mutation. The second possible mechanism supports that the two neoplasms occurred by two separate clones due to genetic instability, while the third mechanism is based on the ability of a leukemic clone to differentiate to mast cell clone as a secondary event.

Conclusion/Discussion: The above demonstrates the existence of a common pathogenetic mechanism of the development of the two synchronous neoplasms. The pathogenesis of this rare, often underdiagnosed phenomenon remains unclear. Further studies are required to elucidate this event with significant clinical and therapeutic implications.

AA 014 SINONASAL MUCOSAL MELANOMA: A CASE REPORT

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Introduction: The malignant sinonasal mucosal melanoma is a rare and aggressive tumor, representing 4% of sinonasal malignancies. This specific type of tumor typically presents during the 7th decade of life and has a poor prognosis . The sinonasal mucosal melanoma most frequently occurs in the nasal cavity, the paranasal sinuses and the oral cavity.

Case presentation: We are describing the clinical case of a 67 years old who was hospitalized in the ENT department of the GH of Chania with relapsing episodes of posterior nosebleed on the left side, which were treated conservatively with anteroposterior nasal packing. Because of the relapse it was recommended to reevaluate the patient for a full-endoscopic check and a CT scan of the region. Before the scheduled appointment, the patient presented again with nosebleed. Later we conducted a full presurgical testing in order to undergo a full-endoscopic check and ligation of the left sphenopalatine artery with general anesthesia. During the endoscopy and after the cauterization of the left sphenopalatine artery, we noticed ipsilaterally inside the nasal cavity, in the superior meatus, a dark, bleeding lesion, from which we took specimens for histologic examination that revealed sinonasal mucosal melanoma. The lesion was identified as

a stage T3N0M0 cancer. This was followed by an endoscopic removal of the lesion, by using navigator. After the oncologic evaluation, we conducted a BRAF genetic test and the patient was referred to for combined radiotherapy-chemotherapy-immunotherapy.

Conclusion: The malignant melanoma is the most unpredictable tumor of the nasal cavity-paranasal sinuses and it is increasing in frequency in the course of time. The endoscopic removal of it seems to show equally good or better therapeutic results compared with open surgeries, while in the future the utilization of new immunomodulatory drugs might play a significant role in the treatment of that specific tumor.

AA 015 SKIN MANIFESTATIONS AND COVID-19 IN CHILDREN

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Introduction: The COVID-19 pandemic caused by SARS-CoV-2 is also having a significant impact on pediatric patients. In addition to respiratory symptoms, manifestations from other systems have been studied, as COVID-19 is a systemic disease. We present the current knowledge for the skin manifestations of COVID-19 in children.

Methods-Data: A review of relative literature was conducted from March 2020 to February 2022, using the MEDLINE database, with keywords "skin disease", "children", "pediatric" and "COVID-19".

Results: The main skin diseases studied in children were a) chilblain b) erythema multiforme c) urticaria d) vesicular exanthem, from which the chilblain is the most frequent. These were manifested in children, who were asymptomatic or with mild respiratory/gastrointestinal symptoms and normal laboratory tests. A small percentage of them had a positive PCR diagnostic test (1.6-6%), but there was a clinical association with SARS-CoV-2 (contact with diseased people in the family environment 23-35% and symptomatology compatible with COVID-19 30-37%). At a rate of about 50% no diagnostic tests were performed, while mild symptomatology and subsequent appearance of skin manifestations could explain the non-laboratory confirmation of the coronavirus. At the same time, in other surveys 57-74% of pediatric patients with systemic inflammatory syndrome experienced manifestations from the skin and mucous membranes that mimic Kawasaki disease, namely non-exudative conjunctivitis, polymorfic rash, facial/perineal desquamation, cheilitis and hand and feet edema-firm induration, with the first two being the most common. These patients had higher rates of positive PCR (13-50%) and serology (75-99%) diagnostic tests, which confirm the systemic inflammatory syndrome.

Discussion/Conclusions: The association between COVID-19 and the above skin diseases is not yet confirmed due to the majority of negative diagnostic tests. Therefore, it requires further research. However, in patients with systemic inflammatory syndrome Kawasaki-like skin manifestations are strongly related to COVID-19.

AA 016 LONG COVID IN CHILDREN

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Introduction: Pediatric patients unlike adults with COVID-19 are usually asymptomatic or have mild symptoms. However, the symptoms may persist on average 3 months after the initial infection or new symptoms may appear after the acute phase of infection has resolved, without being able to be explained by an alternative diagnosis, characterizing Long Covid syndrome (WHO). We present the current knowledge for the Long Covid syndrome.

Methods: A review of the literature was conducted from March 2020 to February 2022, using the MEDLINE database, with keywords “post Covid”, “children”, “pediatric” και “Long Covid”.

Results: The percentage of children who developed Long Covid syndrome ranges from 1.8% to 66% and concerns both symptomatic and asymptomatic patients. The frequency and duration of symptoms varies in each survey. Specifically, those observed are: fatigue (3-87%), anosmia-ageusia (3-84%), concentration disorders (2-81%), headache (3-80%), cough - dry throat (1-80%), abdominal pain (1-76%), fainting (3-71,1%), sleep disorders (2-63%), myalgias-arthralgias (1-61%), shortness of breath (8-55%), nasal congestion (1-52%), rash (2-52%), loss of appetite- weight loss (2-50%), chest pain (1-35%), diarrhea (20-24%), palpitations (18%). Risk factors are older age, female sex, the appearance of myalgias in the acute phase of infection, admission to the ICU and the existence of underlying diseases with asthma being the most common of these.

Conclusion/Discussion: The symptoms of Long Covid have a negative impact on the functionality of children in their school and social life. Therefore, the necessity of a regular re-examination of children after COVID-19 infection is underlined.

AA 017 EARLY POSTOPERATIVE READMISSION RATE AMONG PATIENTS UNDERGOING SPINE ELECTIVE SURGERY FOR DEGENERATIVE PATHOLOGIES: INCIDENCE AND CAUSE ANALYSIS

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Introduction: Hospital readmissions burden the health systems around the world, affecting each medical department but also both patient and patient’s environment. The study examines readmissions after elective spinal surgery to review the frequency of readmissions and lead to betterment of health care.

Methods: This retrospective, observational study covered a single institution from January 2012 until December 2020. Adult patients undergoing spinal surgery for degenerative disease were included in our study. Patients with secondary spine pathology or recurrent cases were excluded. As readmission we considered all related with the primary surgery admissions within 30 postoperative days.

Results: A total of 336 consecutive patients (158 females, 178 males) with degenerative disorders fulfilled our eligibility criteria. The mean age was 54.5 years (IQR 23). Anterior cervical discectomy and fusion (ACDF) and laminectomies were the most common surgical interventions. The underlying pathology was located at the lumbar and cervical spine in 163 (48.5%) and 124 (36.9%) cases, respectively. The mean time of hospitalization was 5 days (IQR 5). In total, 9 cases (0.027%) were re-admitted within 30 days after the initial procedure. The most common reason for readmission was wound infection (44.4%), followed by cerebrospinal fluid leak

(22.2%), and preoperative symptom persistence after surgery (22.2%). The majority of the readmitted patients (44.4%) were surgically managed, while 33.3% were treated conservatively and 22.2% using minimally invasive procedures (lumbar drain). Lumbar Laminectomy along with Posterior Interbody Fusion was an independent predictor (OR: 30.67, 95% CI: 1.52-616.5) for the 30-day readmissions.

Conclusion/Discussion: In our current study, the readmission rate was low (0.027%). Preventing readmission after surgery is crucial since it plays a strategic role in maintaining reasonable health costs and in developing efficacious hospital policies.

AA 018 EFFECT OF COVID-19 PANDEMIC ON PROSTATE CANCER PATIENTS

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Introduction: The purpose of our study is to investigate the influence of the SARS-CoV2 pandemic on the compliance of patients diagnosed with prostate cancer in their regularly scheduled follow-up, which takes place at the uro-oncological clinic of the General Hospital Papageorgiou. In 2020, according to the WHO prostate cancer was the third most commonly diagnosed malignancy with 1,414,259 new cases (7.3% of the total).1 From similar surveys in hospital units abroad, it was observed that the majority of patients did not show consistency in their regularly scheduled examination, for reasons dependent on the pandemic.2

Methods: This is a hospital-based study of a specific group of patients with prostate cancer (cohort study), conducted from 20/1/22 - 25/2/22. The data were collected through a printed questionnaire addressed to the first 100 prostate cancer patients present at the outpatient clinic. It included 11 closed-ended questions regarding participants' baseline demographics, disease history, and quality of life according to the International prostate symptom score. The data were statistically analyzed.

Results: The majority of patients were completely consistent in their regular check-ups, while a small percentage missed 1 or more scheduled appointments. The reasons of their absence were, except in a few cases, due to the pandemic. The main ones were the lack of available appointments, the COVID-19 infection of the patient or their chaperone and the fear of exposure to the virus.

Conclusion/Discussion: In conclusion, from the sample surveyed it appears that the pandemic did not affect the compliance of patients in their follow up. The present study may in the future be a measure of comparison of patients' consistency in their regular screening before the onset of the pandemic. It can also be used to detect possible deterioration of the disease in patients who have missed one or more appointments.

AA 019 AIR POLLUTION AND SKIN

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Introduction: The increase in air pollution over the years has had major effects on the human skin.

Materials and Methods: Various air pollutants such as ultraviolet radiation, polycyclic aromatic hydrocarbons, volatile organic compounds, oxides, particulate matter, ozone and cigarette smoke affect the skin as it is the outermost barrier. Air pollutants damage the skin by inducing oxidative stress. Although human skin acts as a biological shield against pro-oxidative chemicals and physical air pollutants, prolonged or repetitive exposure to high levels of these pollutants may have profound negative effects on the skin.

Conclusion: Topical antioxidants can prevent damage inflicted by environmental pollution.

AA 020 PULMONARY HYPERTENSION IN COVID-19 PATIENTS: AN OVERLOOKED BUT SERIOUS COMPLICATION

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Introduction: According to current literature, pulmonary hypertension is a common complication of SARS-COV2 infection. This review aims to present the pathophysiological mechanisms that lead to pulmonary hypertension during the acute phase of the COVID-19 disease.

Methods/Data: We performed a detailed analysis of the literature at the online database 'PubMed' and 'ResearchGate' in order to find articles presenting related clinical and pathophysiological data. The selected data concern hospitalized patients with severe respiratory failure, inside and outside the Intensive Care Unit (ICU) without previous respiratory and cardiovascular history.

Results: SARS-COV2 pulmonary hypertension is caused by multiple mechanisms and affects 12% of the patients outside the ICU and 40% of the patients inside the ICU. Cytokine storm, as a generalized immune response to the virus, leads to endotheliitis and in situ thrombosis at pulmonary microvessels, while the increased vasoactive mediators are responsible for the augmented pulmonary vascular resistance(PVR). Moreover, Acute Respiratory Distress Syndrome (ARDS) mainly causes hypoxaemia and hypoxic vasoconstriction with increased PVR. Myocarditis -viral or immune-mediated – is another serious complication and possibly leads to heart failure and an icrease in Pulmonary Capillary Wedge Pressure(PCWP). An important mechanism also concerns the direct viral effect on Angiotensin-Converting enzyme 2 receptor (ACE2) at pneumocytes and heart cells that disrupts the renin-angiotensin axis. Finally, the application of positive end-expiratory pressure (PEEP) in intubated patients contributes to a greater increase in PVR. All of the above-mentioned mechanisms lead to high pressure in pulmonary circulation and to right ventricular dysfunction.

Conclusion/Discussion: Acute pulmonary hypertension is a common complication in COVID-19 hospitalized patients and is associated with poor survival, requiring an early detection. Mechanisms leading to PH are not fully understood, while long-term complications of the virus on the pulmonary circulation remain unclear.

AA 021 THE CONTRIBUTION OF HEART FAILURE CLINIC TO THE IMPROVEMENT OF VACCINATION COVERAGE AGAINST RESPIRATORY INFECTIONS

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Introduction-Purpose: Virus infections are a major trigger of cardiac decompensation in patients with heart failure (HF) and vaccination against influenza, pneumococcus and Covid-19 are strongly recommended (1,2,3). The aim of the study is the determination of vaccination coverage among the patients followed in a Heart Failure Clinic (HFC) of a Tertiary Hospital.

Patients-Methods: We analyzed 165 patients followed in HFC, mean age 67±12 y.o., 37 women (22,4%), 74 with reduced ejection fraction (45%) and 12 with history of Covid-19 disease (7%). Epidemiologic characteristics and vaccination coverage against influenza, pneumococcus and Covid-19 were evaluated on the first medical visit and after one year. At each visit, there was a thorough discussion about vaccinations necessity.

Results: At the first visit the vaccination rates for influenza and pneumococcus were 55% and 30% respectively. In patients over 65 years the rates were significantly higher (70% for influenza and 42% for pneumococcus, p <0.001). Significantly increased rates were recorded after vaccination recommendation (80% for influenza and 65% for pneumococcus, p <0.001).
We reported 146 patients (88.5%) fully vaccinated against Covid-19. Non-vaccinated had a lower vaccination rate against influenza (44.44% vs 85.61%, p <0.001). A higher rate of vaccination against Covid-19 of our patients was observed compared to the general population of the country (88.5% vs 75.5% p <0.001). Particularly high percentages were recorded in the age groups 25-49 (95%) and over 60 years (89.83%).

Conclusion: The vaccination rates against influenza and pneumococcus in HF patients are low, especially at younger ages, but increase significantly with regular follow-up in a specialized HFC.
The HF patients who are followed on a regular basis in a HFC have significantly higher vaccination rates against Covid-19 compared to the general population. The compliance of vaccination against COVID-19 is similar to vaccination level against influenza.

AA 022 THE CONTRIBUTION OF HEART FAILURE CLINIC TO THE OPTIMIZATION OF MEDICAL TREATMENT OF HEART FAILURE PATIENTS

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Introduction-Purpose: The optimal medical treatment of patients with Heart Failure with reduced ejection fraction (HFrEF) reduces mortality and hospitalization (1,2,3). The aim of the study is to record the medication of HFrEF patients and the contribution of Heart Failure Clinic (HFC) in achieving optimal treatment.

Patients and methods: The epidemiological characteristics and the medication received by HFrEF patients who were followed on a regular basis in a HFC in the years 2019 and 2020 were recorded, both at the first visit and a year later. We evaluate 74 patients, mean age 64.5 ± 10 years, 75% men, 55% ischemic etiology.

Results: The percentage of patients receiving renin angiotensin inhibitors increased from 80% to 90% with follow-up at the HFC and the maximum target dose was reached at 45% versus 15% at the inclusion visit (p <0.001). There was a statistically significant increase in the percentage of patients receiving neprilysin

inhibitors (50% vs 10%, p<0.001) and 35% were titrated to the target dose. The percentage of patients receiving aldosterone antagonists also improved significantly (85% vs 60%, p <0.001) and 30% were titrated to the target dose. Finally, the percentage of patients receiving beta-blockers was high from the first visit (90%) but the percentage that finally received the target dose significantly improved (40% vs 15%, p <0.001). The main reasons for not receiving the optimal medical treatment were the low blood pressure and the impaired renal function.

Conclusion: The treatment of HFrEF patients has significantly improved with regular follow-up in a specialized HFC, both in terms of taking the main categories of drugs, and in terms of achieving their target dose. A more significant increase was observed in the administration of neprilysin inhibitors and aldosterone inhibitors but there is still a need for improvement in terms of target dose achievement rates.

AA 023 COMORBIDITIES AND TREATMENT OF PATIENTS WITH HEART FAILURE: ASSOCIATION WITH EJECTION FRACTION

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Introduction-Purpose: Patients with heart failure (HF) have increased rates of cardiac and non-cardiac comorbidities (1). The purpose of this study is to record the comorbidities and the treatment of patients with HF who are followed on a regular basis in a specialized Heart Failure Clinic (HFC) and their correlation with the ejection fraction (EF) of the left ventricle.

Patients and methods: Epidemiological characteristics, cardiac and non-cardiac comorbidities and medication at the first inclusion visit were recorded in 165 patients at the HFC. Patients were divided into three categories based on the EF of the inclusion visit: reduced EF (<40%, HFrEF), mid-range EF (40-49%, HFmrEF) and preserved EF (> 50%, HFpEF).

Results: 45% were patients with HFrEF, 20% HFmrEF and 35% HFpEF. Compared to patients with HFpEF, patients with HFrEF were younger (64.5 vs 72.5 years), more men (75% vs 52%) and suffered more often from coronary artery disease (65% vs 25%) and less frequently from hypertension (30% vs 68%) and atrial fibrillation (32% vs 56%). Patients with HFmrEF were similar to patients with HFrEF in terms of age, sex, coronary artery disease and atrial fibrillation. There were no differences between patients with HFrEF, HFmrEF and HFpEF in the coexistence of non-cardiac comorbidities such as diabetes mellitus (34%, 35%, 32%), chronic renal failure (25%, 20%, 22%) and chronic obstructive pulmonary disease (12%, 10%, 12%). The administration of renin-angiotensin-aldosterone inhibitors as well as beta-blockers was higher in patients with HFrEF than in those with HFpEF.

Conclusion: There are many differences in the characteristics and treatment of patients with HF according to EF. Coronary artery disease is the most common comorbidity in patients with HFrEF while hypertension and atrial fibrillation in patients with HFpEF.
The majority of the findings of our series keeps up with most other series at bibliography.

AA 024 OVARIAN TISSUE CRYOPRESERVATION AND TRANSPLANTATION TO DELAY MENOPAUSE

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Introduction/Background: Ovarian tissue cryopreservation and transplantation (OTCT) is increasingly being used in young cancer patients for fertility restoration and prevention of premature ovarian insufficiency (POI). Recently it has also been advocated as a method to delay menopause. The purpose of this study was to review all the studies that have been published regarding this method, and conclude whether it is justified.

Methods: Review of the literature regarding ovarian tissue cryopreservation and transplantation to delay menopause.

Results: As for the effectivenes of the method, at present, no evidence exists that OTCT is an effective and safe strategy for the management of menopausal symptoms. Although the duration of the graft function cannot be accurately estimated at present, OTCT is associated with loss of ovarian follicles at freezing and thawing, as well as after transplantation. Thus, women may need to undergo repeated transplantation procedures for achieving long-term restoration of ovarian endocrine function. While the risk associated with laparoscopy is small, it is not negligible. Moreover, there is no direct data to show whether the need to restore ovarian activity appears earlier in women who undergo OTCT to delay menopause. However, indirect data suggests that this is likely to be true. As for alternative methods to delay menopause, it is shown that the customization of HRT with respect to patient selection and regimen used ensures the safety of HRT in the clinical setting.

Conclusion/Discussion: Given the availability of alternative, established treatments for managing menopausal symptoms, as well as the multiple unanswered questions re-garding the method, it is imperative that, before OTCT is regarded as a mainstream technique for delaying menopause, further evaluation and clinical investigation are undertaken.

AA 025 POLYCYSTIC OVARY SYNDROME AND METABOLIC SYNDROME: TWO CLOSELY RELATED DISORDERS

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Introduction/Background: Metabolic syndrome is a combination of metabolic disorders including central obesity, insulin resistance, hypertension and dyslipidemia. Polycystic ovary syndrome is characterized by disorders of androgen levels, which affect metabolic functions and thus often occurs metabolic syndrome. The interaction between these two syndromes is the subject of this study.

Methods: A literature review was conducted which was searched on the PubMed platform, with selection criteria the English language and the recent publications of articles between (2017-2022). Keywords used: metabolic syndrome, hormonal imbalance, polycystic ovary syndrome and menstrual disorders.

Results: Women with polycystic ovary syndrome have elevated androgen levels. A strong correlation has been found between androgens and metabolic disorders, as exposure to elevated androgens appears to cause pancreatic β-cell dysfunction, resulting in decreased sensitivity to insulin action and eventually increased plasma levels of the hormone. At the same time, elevated androgens affect genes involved in lipid metabolism and ultimately cause increased lipid accumulation, which is associated with the onset of central obesity. Obesity and insulin resistance observed in polycystic ovary syndrome are directly related to dyslipidemia and triglyceride disorders, features that are also present in the metabolic syndrome. Women with polycystic ovary syndrome also show increased activation of the renin-angiotensin-aldosterone system, resulting in hypertension due to increased aldosterone.

Conclusion/Discussion: Polycystic ovary syndrome, through increased androgen secretion, significantly affects the body's metabolic functions. The recent literature suggests that polycystic ovary syndrome can lead to metabolic syndrome.

AA 026 SEACHING FOR THE HIDDEN: A REVIEW OF OSTEOCHONDRAL LESIONS FOR THE PERIOD 2020-2022 IN PEDIATRIC PATIENTS OF THE 1ST ORTHOPEDIC CLINIC OF CHILDREN HOSPITAL “P & A KYRIAKOU”

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Introduction-Objectives: Osteochondral fractures / lesions in children are injuries resulting from direct or indirect boredom of the affected anatomical structure. Often, the inability to image them on plain X-ray leads to a delayed diagnosis, and therefore, on suspicion and persistence of the symptoms, MRI reveals the lesion. Loose pieces should either be removed or fixed immediately to prevent premature degenerative lesions.

Method: A retrospective study of the medical records of patients treated at the First Orthopedic Clinic of the General Hospital "P & A Kyriakou" in the last 2 years for the studied pathology. Information was recorded regarding the number of patients, the possible mechanism of injury and the course of the disease.

Results: In our clinic, 12 children have been treated with osteochondral knee injury and 3 with corresponding ankle injury. The mean age of the patients was 12 (sd = 2) years and 50% were boys. 50% had pain in his left lower extremity injury. All of them had pain in the first year, and in all of them the injury was the result of a patellar dislocation. All were treated by fixation of the free piece arthroscopically with bio-absorbable pins under radioscopic control. Three months after the operation, an MRI scan was performed. Recovery was complete in 11/12 patients.

Discussion: Osteochondral lesions, although not very common, afflict the pediatric population due to delayed diagnosis and time-consuming rehabilitation. Arthroscopy has contributed significantly to the optimization of treatment with a fast track and early recovery but also an extremely low probability of complications.

AA 028 METICULOUS ANALYSIS OF PSORIASIS AND FREQUENTLY ASKED QUESTIONS OF THE GREEK POPULATION

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Introduction/Background: Psoriasis is a common, chronic, non contagious, recurrent, inflammatory skin disease. It affects 1--3% of the global population. The onset of the disease can occur at any age with two age peaks: from 18-39 or between 50-69. There are several forms of psoriasis, the most common of which is "plaque psoriasis", in which different sizes of clearly detached erythematous plaques, covered by silvery scales are found. The aim of this paper is to present the main points of the disease as well as to investigate and analyze the issues that concern the Greek population in relation to the disease.

Methods: Based on the Google Trends search engine, data were collected on the Greek searches on the subject of psoriasis in the last 5 years. These include both most common and upcoming topics and questions.

Results: The users who searched the term "psoriasis", also searched the following terms: head, therapy, nail, hand, psora, symptoms, dermatitis, eczema and itching. The following topics presented major increase in frequency: autoimmune disease, palm, elbow, cannabidiol, sulfur, allergy, foam, Crohn disease, fungus. The most popular questions were: therapy, symptoms, head psoriasis, photos, hand psoriasis, nail, definition, early stage photo, hand and face disease while the most rising questions concern the early stage of the disease.

Conclusion/Discussion: The collection of data allows the medical community to understand the basic questions that concern the public and consequently solve them. It seems that the issue of special localizations such as nails, scalp and limbs and the symptoms of the disease such as itching and its differential diagnosis from other diseases like dermatitis, concern the Greek public. At the same time, the search showed special interest in the various treatments of the disease, even the most alternative ones such as cannabidiol. To conclude with, based on the above results, it is necessary to disclose the clinical picture and treatment of the disease to the general population.

EP 001 APPLICATION OF IVF IN THE COVID-19 ERA: NEW GUIDELINES IN LABORATORY PROTOCOLS

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Introduction/Background: In 2019 a public health emergency was decreed due to the Covid-19 pandemic. New guidelines were released in different medical procedures including those of Reproductive Medicine for the prevention of viral transmission. This study aims to assess all new guidelines regarding the IVF procedures in the Covid-19 era.

Methods: Systemic review of the literature of 12 manuscripts in the past 2 years (2020-2021) with the term "IVF procedures in Covid-19 era" regarding up-to-date guidelines on the management and current fertility treatment options in the pandemic era. Data were collected and compared in excel files to standard IVF laboratory protocols to observe changes in practices and precautionary measures.

Results: IVF laboratory protocols have drastically changed since the beginning of the Covid-19 pandemic. Personal protective equipment should be used by all the frontline staff. Mini-teams should be created so that the clinic continues its activities, each time a group member is affected by the disease by quarantining only his /her team. The medical staff should avoid personal contact with the patients and telehealth methods should be preferred. At the end of each procedure sanitization of the workplace is necessary. A negative Covid-19 test 1-2 days prior is essential for all patients undergoing ART treatment. All men should be tested before IVF and only those with negative results can continue with the procedures as it is suspected that the virus can be transmitted through semen. Lastly, the workplace should have written instructions on sample collection procedures regarding collection, preservation, and transportation of semen.

Conclusion/Discussion: There is a low risk of viral contamination through cryopreserved semen samples. The risk of transmission comes from the human factor. Therefore, the new guidelines should be reverently followed, to avoid the infection and the sequelae of the disease.

EP 002 MONITORING OF SARS-CoV-2 VARIANTS OF CONCERN: DATA FROM AHEPA UNIVERSITY HOSPITAL OF THESSALONIKI

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Introduction/Background: The COVID-19 pandemic is caused by SARS-CoV-2, an RNA virus of the genus Betacoronavirus. Due to deficiency of repair mechanisms and the activity of SARS-CoV-2 RNA-dependent RNA polymerase (RdRp), genetic mutations during its replication occur. The accumulation of mutations leads to viral variants presenting altered properties with significant impact on transmissibility, severity and/or immunity. The World Health Organization has characterized these variants as variants of concern (VOC) and

suggests their monitoring. Up to date, 5 VOCs have been detected: Alpha, Beta, Gamma, Delta and Omicron. The Department of Microbiology of AHEPA contributes to the National Monitoring Network, which has been established by the National Public Health Organization (NPHO) for the monitoring of VOCs.

Methods: The molecular testing of patients was performed by RT-PCR of nasopharyngeal samples (Abbott/ NeuMoDx™ Real Time SARS-CoV-2 Assay). Out of the positive samples, 20-30 were sent each week for sequencing to the Centre for research & technology Hellas (CERTH). These samples were selected from patients of both genders, including all age groups and from different regions of Thessaloniki and the Central Macedonia region.

Results: Based on the data of AHEPA hospital, Alpha was the prevailing variant of the virus from 19/04/21 to 02/07/21. The Delta variant appeared for the first time on 25/06/21, became dominant on 09/07/2021 and remained such until 27/12/2021. Omicron emerged on 20/12/2021, spread rapidly and became dominant over Delta in just two weeks (10/01/2022).

Conclusion/Discussion: The monitoring of SARS-CoV-2 variants can contribute to the improvement of the diagnostic tests, the therapeutic strategies and the vaccination programs. Moreover, tracing and monitoring of the variants which are more contagious or cause more severe illness, can assist to the restriction of their spread.

EP 003 PHARMACOLOGICAL MODULATION OF INFLAMMATION IN CONGESTIVE HEART FAILURE - A POSSIBLE NEW PATHOGENIC THERAPY

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Introduction: Heart failure (HF), a main cause of mortality worldwide, associates a strong response from the adaptive immune system that targets the self-structures according to a new pathogenesis theory (1,2). Exogenous or endogenous triggers of immune response within cardiac tissues results in the so-called "sterile inflammation", therefore, the persistence of inflammatory signals or lack of repression of the cardiac inflammatory response results is maladaptive cardiac remodeling (1).To identify the effects of monoclonal antibodies (etanercept, infliximab, anakinra, tolicizumab, rituximab) administration in HF to reduce the local and systemic inflammation and cardiac remodeling.

Material and methods: The online databases MEDLINE/PubMed and Web of Science were searched for studies published in English, from 2017 to January 2022, using the keywords: “inflammation”, “heart failure”, “biological therapies/ monoclonal antibodies”. Inclusion criteria were experimental and clinical studies with the effects of monoclonal antibodies in heart failure. Studies with incomplete data or other biological therapies were excluded.

Results: Search resulted in 50 studies, after title and abstract screening and applying the inclusion/exclusion criteria. Pro-inflammatory cytokines (TNF-α, IL-1, IL-6, lymphocyte B) cause cardiomyocyte hypertrophy, apoptosis, and reduction of extracellular matrix and fibrosis. Monoclonal antibodies block cytokines effects and plasmocyte activation, reducing the local and systemic inflammation and cardiac remodeling both on

human and animals (3,4). Inhibitors of TNF-α (etanercept, infliximab) reduced cardiac hypertrophy, improved ejection fraction of the left ventricle, reduced cardiac fibrosis, and the levels of inflammation (3). Inhibitors of IL-1 (anakinra) reduced inflammation and the cardiac remodeling. Inhibitors of lymphocytes B (rituximab) improved the ejection fraction and reduced the lymphocyte B infiltration in cardiac tissue (5). Inhibitors of IL-6 (tolicizumab) improved the diastolic function (6).

Conclusion: Modulation of inflammation with monoclonal antibodies targeting specific inflammatory cytokines from cardiac tissue is a potential new HF therapy for non-responder patients at standard medication.

EP 004 FIRST DOCUMENTED CASE OF MYHRE SYNDROME IN ROMANIA

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Introduction: Myhre syndrome is a rare, genetic autosomal dominant connective tissue disorder, caused by a germline mutation in the SMAD4 gene, first observed in 1981, but increasingly diagnosed ever since. It is characterized by skeletal abnormalities, short stature, facial deformities, limited joint mobility in association with intellectual disability.

Methods: Our patient, an 18-year-old female who was first diagnosed at the age of 17 years with Myhre syndrome, is the first documented case of this syndrome in Romania. Short stature, brachydactyly, facial dysmorphia, thickened skin, ENT complications, coarctation of the aorta were identified. Among distinctive but common features of this rare syndrome, a series of particularities were reported in the present case, consisting of severe allergic reactions and delayed dental eruption.

Results: In the majority of the patients with Myhre syndrome as well as in the presented case, the etiology shows a heterozygous mutation in the SMAD4 gene, resulting in abnormal TGF-β signaling in several cell types. Sequence analysis of protein-coding genes using whole-exome sequencing (WES) molecular analysis identified a 'de novo', heterozygous pathogenic variant of SMAD4. Due to the heterogeneity of symptoms, and the lack of family history in our case, the diagnosis was delayed. The patient was finally diagnosed with Myhre syndrome following the molecular testing.

Conclusion: In general, the diagnosis of a rare disease might be challenging, due to the heterogeneity of the symptoms that don't lead to a characteristic phenotypic spectrum. In Myhre syndrome, the symptoms tend to go unnoticed in early childhood and become noticeable in adolescence. Diagnosing a rare genetic condition such as the one in the presented case requires a multidisciplinary approach followed by a molecular testing.

EP 005 NEW GENETIC VARIANT REPORTED IN THE FIRST DIAGNOSED CASE OF O'DONNEL-LURIA-RODAN SYNDROME IN ROMANIA

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Introduction: First reported in 2019, with only 38 cases reported worldwide, O'Donnel-Luria-Rodan Syndrome (ODLURO) is a rare autosomal dominant inherited neurodevelopmental disorder, caused by mutations in the lysine methyltransferase 2E, (KMT2E) gene, which modulates methylation, involved in neurodevelopment. The syndrome is reported mostly in male patients under 10 years old, main characteristics being low intelligence, delayed development, autism spectrum disorders, seizures and anxiety.

Methods: We present the case of a 5 year old male, who presented delayed speech and mental development, initially diagnosed with idiopathic autistic spectrum disorder. From the reported ODLURO phenotype, the patient presented only mild characteristics, antimongoloid palpebral fissures, prominent cheeks and nasolabial folds, macrocephaly, frontal bossing and tapering distal phalanx. He also associated severe gastroesophageal reflux and abdominal pain, non-specific symptoms. Because of the normal paraclinical diagnosed with idiopathic autistic spectrum disorder. From the reported ODLURO phenotype, the patient presented only mild characteristics, antimongoloid palpebral fissures, prominent cheeks and nasolabial folds, macrocephaly, frontal bossing and tapering distal phalanx. He also associated severe gastroesophageal reflux and abdominal pain, non-specific symptoms. Because of the normal paraclinical diagnostic tests and the combination of signs, genetic testing was performed, using whole-exome sequencing.

Results: The molecular analysis identified a new heterozygous KMT2E gene mutation, classified as a variant with unknown significance (VUS), characterized by a deletion with consecutive inclusion of a pathogenic exon in the mature mRNA, resulting in structure and function alteration of the synthesized polypeptide. The consecutive parent testing showed the same variant present in the father, who manifested undiagnosed autistic-like behavior, possibly explaining the less expressed phenotype of the mutation in the son. This is the first ODLURO case being diagnosed in Romania, presenting also a new genetic variant.

Conclusion-Discussion: The case particularity is not only the syndrome's rarity, but also the description of a new mutation in the KMT2E gene. ODLURO in the majority of cases is a de novo mutation, in this case being inherited from the father, which may partially explain the different phenotypic manifestations. Little etiopathogenesis reported information explains the difficulty in reaching a correct clinical diagnosis, further data being necessary in order to correlate this variant's pathogenicity with the syndrome presentation.

EP 006 KNOWLEDGE AND ATTITUDES OF MEDICAL & NURSING STUDENTS IN GREECE REGARDING EDUCATION ON CHILD ABUSE & NEGLECT

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Introduction: Child abuse is defined as any form of physical and psychological maltreatment, sexual abuse, neglect and exploitation resulting in a real or potential danger to the health, development and dignity of the child and is distinguished in the following forms: neglect, physical, psychological or sexual abuse and Munchausen by proxy syndrome. Data on knowledge of healthcare professionals on child abuse and neglect are limited. The aim of the present study is to assess knowledge of future healthcare professionals in the field.

Methods: We conducted a cross-sectional study among medical and nursing students of Greek Universities using an electronic questionnaire comprising of 29 questions on their knowledge on CAN.

Results: We collected 609 responses [151 males (24,8%) - 452 females (74,2%) - 6 other (1%)], 366 medical (60,1%) & 243 (39,9%) nursing students. According to literature, neglect is the most common type of CAN; however, only 21 responders (3,45%) are aware of this. The majority of responders state that they have inadequate knowledge of physical [392 (64.4%)] and behavioral signs [447 (73,4%) concerning children's and 491 (80.6%) concerning parents'] indicative of CAN. Two out of three responders claim to have insufficient knowledge of the procedures following the report of a CAN case (30,4% not at all, 31,9% slightly and 27,4% moderately aware), while 90,6% (552) believe that the services involved in the management of such a case are hardly sufficient. Lastly, 80,8% (492) of students do not feel ready to manage a case of CAN.

Conclusion-Discussion: According to our findings, the lack of adequate knowledge on CAN among future health professionals is apparent. Thus, we suggest that more structured education should be provided during the undergraduate education in the field for both medical and nursing students in Greece.

EP 007 PLACENTAL MACROPHAGES IN HUMAN PREGNANCY

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Introduction: The placenta is a chimeric maternal-fetal structure containing immune cells, such as natural killer cells, macrophages and T-cells, which support the immune tolerance towards the fetus, prevent infections and maintain placental homeostasis. Placental macrophages are heterogenous and involved in several pregnancy-associated pathologies. Objective: Review of the literature with the key word "placental macrophages".

Methods: Search in PubMeD using the combination of placenta and macrophages.

Results: Placental macrophages of maternal origin are called decidual macrophages and are mainly found in decidua basalis, while those of fetal origin are named Hofbauer cells and are present in the chorionic villi. Immunohistochemistry of 70 placentas (from normal term pregnancies and various pathologies such as miscarriages of the first trimester and intrauterine growth restriction) showed that the most specific marker for the detection of Hofbauer cells is A1-Antichymotrypsine and that these cells are present in chorionic villi during normal pregnancy but with progressively decreasing density. Immunohistochemistry also revealed that the number of decidual macrophages decreases before delivery. The functions and immunophenotype of placental macrophages change with gestation age and the largely used M1/M2 classification of macrophages, which is mainly based on the specific surface markers profile and the secretion of several cytokines, has also been applied in placental macrophages. Placental macrophages are related to various pregnancy-associated infections caused by bacteria, viruses, fungi and parasites.

Conclusion: Hofbauer cells and decidual macrophages are important placental immune cells originating from the fetus and the mother, respectively.

Key Words: Placenta, Macrophages, M1/M2 Polarization

EP 008 INNATE LYMPHOID CELLS IN HUMAN PREGNANCY

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Introduction: There is increasing evidence that the human innate lymphoid cells (ILCs) have a prominent role in pregnancy. Objective: Review of the literature concerning ILC in human pregnancy.

Methods: Search in PUB MED using innate lymphoid cells and human pregnancy as key words.

Results: ILCs are effector cells, mainly tissue resident, that have relevant roles in mediating inflammation and tissue repair.They are classified into five groups according to the expression of transcription factors and cytokine profile, as natural killer cells (NK cells), group 1 ILCs, group 2 ILCs, group 3 ILCs and lymphoid tissue inducers (LTi). Moreover, ILCs share a common lymphoid progenitor and their effector characteristics have great plasticity, since they are dependent on their microenvironment. Functionally, these cells resemble the T-helper population, but lack the expression of recombinant T-cell genes.
ILC populations are present in uterine and fetal compartments and dynamically change throughout pregnancy. One key mechanism regulating induction of tolerance is through the activities of HLA-G molecules.The expression of HLA class II molecules in ILC2 and ILC3 populations might elicit the presentation of paternal antigens to the mother's immune system. The involvement of the innate immune system in preterm birth and preeclampsia could result from dysregulation or expansion of pro-inflammatory ILC populations.

Conclusion: ILCs which are implicated in infection, inflammation and tissue repair may also play a role in successful pregnancy.

EP 009 DENDRITIC CELLS IN PREGNANCY AND PREGNANCY-ASSOCIATED PATHOLOGIES

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Introduction: Dendritic cells (DCs) are a crucial immuno-modulator of pregnancy and pregnancy-associated pathologies.

Objective: Literature review of Dendritic cells in pregnancy and pregnancy-related conditions.

Methods: Search in PubMed using dendritic cells and human pregnancy outcomes as keywords.

Results: Dendritic Cells (DCs) in the uterus and the peripheral blood are implicated in the fetal immune tolerance and other maternal adaptations. The characteristics of DCs change dynamically during pregnancy making DCs able to interact with other immune cells, like T cells and natural killer cells (NK cells). DCs, based on their lineage position, can be divided into four subsets: the conventional DCs (cDCs), the plasmacytoid DCs (pDCs), the monocyte-derived DCs (mono-DCs), and the Langerhans cells (LCs). While all four DC subsets are found in the female reproductive tract, the interest in pregnancy is mainly focused on cDCs and pDCs. DCs can be further divided into immature DCs (imDCs), which induce immune tolerance, and mature DCs (mDCs). Tolerogenic DCs, a subdivision of imDCs, are implicated in maternal-fetal tolerance. There is evidence that progesterone (PG), HCG, and macrophage inhibitory cytokine-1 (MIC-1) which are present in the maternal environment are implicated in the maintenance of DCs in a tolerogenic state . The deviant differentiation of DCs may deregulate the maternal-fetal tolerance, causing various pregnancy-associated diseases, such as recurrent spontaneous abortion (RSA), preterm birth (PTB), and preeclampsia (PE).

Conclusion: The roles of DCs in pregnancy and pregnancy-associated diseases make them a promising target of immunotherapy and vaccination.

EP 010 IDIOPATHIC JUVENILE ARTHRITIS:THE IMPACT OF EXERCISE ON QUALITY OF LIFE

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Introduction/Background: Muscle weakness occurs in 50% of children with Juvenile Idiopathic Arthritis (JIA) , especially in the upper extremities. There are also symptoms such as swelling of the joints, sweating, tenderness, restriction of joint movements due to pain, muscle weakness and atrophy, balance impairments, and gait disorders. Exercise potentially leads to improved quality of life in these patients. Optimal personalization of the type of exercise that each individual should follow remains a matter of ongoing discussion.

Methods: We performed a PubMed search for all articles with keywords "*Juvenile Idiopathic Arthritis*" and "*exercise*", covering the dates 2008 Oct through 2021 Jun.
A separate PubMed search was performed for all articles with keywords "juvenile arthritis", "exercise", and "quality of life" covering the same dates.

Results: Physical activity potentially leads to improved quality of life in patients with juvenile idiopathic arthritis. Examples of such exercises are pilates and core strengthening exercises, which are beneficial by relieving pain, improving the patient's dexterity and daily activities and, thus, improving quality of life. Children with JIA are likely to benefit more from aerobic exercise than from anaerobic exercise.

Conclusion In this review, we summarize literature on the role of different types of exercise in management of Juvenile Idiopathic Arthritis in children and adolescents.

Keywords juvenile idiopathic arthritis, exercise, physical activity, aerobic exercise, anaerobic exercise, core stability exercise, quality of life

EP 011 CLINICAL PARTICULARITIES AND CHALLENGING MANAGEMENT OF AIDS ASSOCIATED WITH CEREBRAL TOXOPLASMOSIS: A CASE STUDY

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Introduction: Today's human immunodeficiency virus epidemy still implies the presence of a high number of late presenters in which cerebral toxoplasmosis is frequently diagnosed as an associated opportunistic infection.

Methods-Data: In this Case-Study, we present a 33-year-old male patient who was admitted in the Infectious Diseases Clinical Hospital of Cluj-Napoca and diagnosed with AIDS associated with cerebral toxoplasmosis. The clinical examination revealed an 8-day onset of fever, dysphagia, non-productive cough, oropharyngeal candidiasis, loss of appetite and unintentional 6 kg weight loss of 2 months' duration. From his medical records, we note that during hospitalization his mental state altered, he became sleepy with neuropsychiatric manifestations, developing motor disturbances. The patient underwent cranial CT which depicted mass lesions and diffuse oedema, validating cerebral toxoplasmosis.

Results: Blood analysis showed pancytopenia with lymphocytes=5,4% (normal: 20%-40%). A positive result for HIV showed a viral load of 828899 copies/mL. Diagnosing AIDS was possible due to CD4 count of 103 cells/µL, starting antiretroviral therapy with Lamivudine, Tenofovir and Raltegravir. Treatment for cerebral toxoplasmosis was also initiated with Trimethoprim/Sulfamethoxazole. After 8 weeks of therapy, a persistent macrocytic anaemic syndrome was evidenced. Test for Parvovirus B19 bone marrow infection was performed – negative, so a possible adverse effect of Trimethoprim/Sulfamethoxazole was taken into consideration and treatment was adjusted only to a prophylactic dose with improvement in hematology markers. The patient became undetectable after 6 months and his CD4 increased gradually to 761 cells/µL.

Conclusion-Discussion: Recent statistics revealed decreased rate in HIV testing in Romania, 38% of the detected cases were late presenters in 2020. The dramatical outcomes of AIDS can also be seen in the familial context of the patient, his HIV-infected wife being 8-months pregnant at that moment. Therefore, our case illustrates a frequent opportunistic infection in AIDS population and highlights the importance of early diagnosis and prompt treatment.

EP 012 16Q24.3 MICRODUPLICATION IN A PATIENT WITH DEVELOPMENTAL DELAY, INTELLECTUAL DISABILITY, SHORT STATURE, AND NONSPECIFIC DYSMORPHIC FEATURES

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Introduction: The 16q24.3 microduplication syndrome is yet relatively unknown due to the very few cases reported in the medical literature. This case is the first genetically confirmed romanian patient with microduplication involving ANKRD 11 morbid gene. ANKRD11 haploinsufficiency is known to be associated with skeletal involvement, such as low bone density and delayed boneage, being similar to the fenotype of KBG syndrome.

Methods/Data: We are reporting a case of a 7-year-old girl, who presented significant global developmental delay, including: intellectual disability – IQ of 30, associated with delay of all motor skills and autism spectrum disorder. At the clinical examination, we noticed microcephaly, facial dysmorphism, anteverted ears, convergent strabismus, telecanthus, broad nasal bridge with bulbous nasal tip, long philtrum, thin upper lip, clinodactyly and muscular hypotonia.

Results: Due to a previous proximal femur fracture, a bone densitometry was recommended, the results came out under the standard values expected for the age and gender of the patient. Following the clinical examination, genetic testing with G-banding karyotype showed a double satellite in chromosome 21. SNP array analysis identified a 113.556 bp duplication in the chromosome 16, which helped us make a differential diagnosis between the 16q24.3 microduplication and KBG syndrome/ Cornelia de Lange syndrome/ Cohen syndrome. The exome testing didn't show VUS variants in genes associated with the clinical picture.

Summary/Discussion: The 16q24.3 microduplication observed in our patient hasn't been reported until now in Romania. A particularity of our case is the very low bone density, which put to question the implication of the ANKRD11 gene. What made diagnosing this case difficult, were the similarities to KBG syndrome, being little information available about this microduplication that we found on the 16th chromosome. Therefore, the "genotype first" approach was favorable in distinguishing the final conclusion of the case.

EP 013 ALCALIGENES FAECALIS FROM A BITE WOUND INFECTION - THE IMPORTANCE OF MALDI-TOF

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Introduction/Background: Gram-negative bacteria (GNB) are among the most significant public health problems due to the high resistance to antibiotics. The non-fermenter, gram-negative bacilli (BNF) are rarely described in complications of animal bite wounds. Infections resulting from animal bites are usually poly-microbial with a combination of aerobic and anaerobic bacteria. Alcaligenes faecalis is part of the BNF group and represents an exceptionally rare finding in wound infections.

Methods: The patient, an 80-year-old female, was admitted to the Emergency Department with a bite wound at the level of her lower left limb. Regarding her medical history, the patient was suffering from multiple cardio-vascular pathologies, such as chronic obliterating arteriopathy and varicose ulcer, affecting both lower limbs. Biologically, the patient has leukocytosis, neutrophilia, lymphocytosis, increased level of BUN (Blood Urea Nitrogen). Because the patient became septic, it was decided that the best approach would be to amputate the leg.

Results: The pathological product from the bite wound came out initially positive for Staphylococcus aureus MRSA and Pseudomonas oleovorans. Because of the 80% accuracy, in order to confirm Pseudomonas oleovorans, a pure bacterial culture was analyzed using Vitek (bioMérieux, Marcy - l' Étoile, France). The analysis shows the etiologic agents Pandorae spp. Due to the rarity of this finding, for a final result, MALDI-TOF Mass Spectrometry (Bruker Daltonics, Bremen, Germany) was used. The analysis result was Alcaligenes faecalis.

Conclusion/Discussion: We presented a rare case of bite would infections with mixed etiology Alcaligenes faecalis and Staphylococcus aureus MRSA. Because of the sepsis, the doctors decide to amputate the limb. Therapy with Vancomycin was initiated, along with other recommendations for the patient.

EP 014 SARS-COV-2 AND PREECLAMPSIA: A SYSTEMATIC REVIEW

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Introduction/Background: COVID-19 is a challenge for the global health care system and has caused more than 5 million deaths and 430 million cases the last 2 years. Preeclampsia is a dangerous condition that affects about 8% of pregnant women and can lead to serious complications and even death. The aim of this systematic review was to examine the correlation between SARS-CoV-2 infection and risk of preeclampsia. Secondarily, objectives were the possible complications of SARS-CoV-2 infection in pregnant women, the risk of maternal-fetal transmission and fetal complications.

Methods: A systematic search was conducted on PubMed and Scopus .The keywords that were used were "COVID-19" AND ''pregnancy'' AND ''preeclampsia'' AND ''complication'. Study selection criteria were pregnant women coinfected with COVID-19. We included all clinical studies that reported data on pregnant women infected with SARS-CoV-2 and preeclampsia between 2019 and 2022 and excluded review articles.

Results: Out of 225 articles found,50 were chosen for level I screening and 13 were chosen to be reviewed. They include case reports, cohort studies and observational studies. Women were diagnosed with COVID-19 after having been tested positive with reverse transcription polymerase chain reaction (RT-PCR) or rapid antigen test they were repeated throughout their hospital stay from the time of admission to the day that they have been released. SARS-CoV-2 enters the arterial endothelium of umbilical cord cells through ACE2 receptors and causes vasoconstriction and inflammation. The outcomes were compared among women with preeclampsia alone, COVID-19 alone, or with both conditions. Women with both conditions had higher rates of preterm labor and neonatal admission to the ICU units in comparison to healthy pregnant women.

Conclusion/Discussion: SARS-CoV-2 and preeclampsia can have a negative impact on the mother and the child and therefore more research needs to be done to establish the relation and develop possible treatments.

EP 015 CASE STUDY OF ALPORT SYNDROME IN 20YR OLD MALE-INTRODUCTION TO AN UNDIAGNOSED DISEASE | CHALLENGES IN THE DIAGNOSIS OF A YOUNG ADULT WITH ALPORT SYNDROME

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Background: In this case study, we present the clinical findings in a case AS, describe the symptoms and clinical course, provide a brief differential diagnostic overview and highlight therapeutic options. We discuss the genetics and pathophysiology of AS, the clinical manifestations, histopathology, diagnostic protocols, conventional treatment and prognostic markers of the disease.

Case Presentation: A 23-year-old male presented in the nephrology clinic after referral for hypertension and high levels of urea and creatinine. A detailed history revealed that he suffered from hematuria since childhood, hypertension for the last two years and had vision as well as auditory medical issues. An otorhinolaryngology and ophthalmology work-up revealed sensorineural hearing loss and anterior lenticonus respectively, which are typical of Alport syndrome. A kidney biopsy was performed which revealed typical AS findings. No complication was recorded after the biopsy. The patient progressed to end-stage kidney disease and he was started on peritoneal dialysis.

Results: Alport Syndrome is the most common inherited kidney disease after autosomal dominant polycystic kidney disease. It is a progressive, hereditary renal disease that is characterized by a genetically and phenotypically heterogeneous disorder of the glomerular, cochlear, and ocular basement membranes resulting from mutations in the collagen IV genes COL4A3, COL4A4, and COL4A5.
Collagen is the primary protein of all types of connective tissue in human body. As a result, mutations to collagen genes affect the structure of connective tissue and cause further abnormalities to it and to correlated organs. AS is a disease of this kind, in which mutations in collagen genes, cause loss of the normal structure of type 4 collagen, by damaging the cell signaling via receptors of laminin binding integrins.

Conclusion: AS is a hereditary disease resulting from mutations in collagen genes. Main symptoms include hearing loss, eye abnormalities and hematuria. Kidney disease is very common and progresses to end stage kidney disease. Since today there are no effective treatments for AS-related kidney disease. However, there are still possibilities for delaying its course and mainly treating kidney disease related complications early. This case report aims to raise awareness of this likely under-diagnosed condition.

EP 016 BACTERIOSTATIC EFFECTS OF ESSENTIAL OILS ON ESBL AND CRE KLEBSIELLA STRAINS

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Introduction: Emerging and re-emerging of multidrug resistant bacteria have caused major public health concern worldwide lately. Essential oils (EO) obtained from spices and herbs were found to possess among the strongest antimicrobial effects. The aim of this study was to evaluate antibacterial effect of essential oils obtained from oregano, frankincense, copaiba and On Guard mixture (wild orange, clave, cinnamon, eucalyptus, and rosemary) against Klebsiella ESBL and Klebsiella CRE.

Methods: Bacterial strain were isolated using specific chromogenic media. In order to test for the antimicrobial effect of the EO, we performed an antibiogram using the Kirby-Bauer method (0,5 McF and 37 oC). 5,49 diameter filter paper discs were impregnated with the EO and placed on the Mueller Hinton Agar (MHA). After a 24 h incubation we measured the diameter of the inhibitory zone (DIZ). The statistical analysis was performed using R Core Team (2021).

Results: For Klebsiella ESBL DIZ was 7,538 mm for oregano, 5,49 mm for frankincence, 5,808 mm for copaiba and 6,03 mm for mixture. For Klebsiella CRE the results were: 6,536 mm for oregano, 5,49 for frankincence, 5,49 for copaiba and 5,70 for mixture. Furthermore, we compared the effects of oregano and On Guard mixture, the only two EO that proved an antimicrobial effect on both strains, obtaining a statistically significant difference between them ($p<0,05$).

Conclusion/Discussion: This study reveals the significant antibacterial effect that EOs, especially the one obtained from oregano, have on Klebsiella ESBL and Klebsiella CRE, mentioning that Klebsiella ESBL is more susceptible to its action than CRE strain.

EP 017 ASSESSING EMPLOYED MIDDLE-AGED PATIENT SATISFACTION TO GUIDE QUALITY IMPROVEMENT PROJECTS IN A LONDON PRIMARY HEALTHCARE CENTER

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Background: Non-communicable chronic disease often presents in the 5th decade of life, following prolonged exposure to work-related risk factors, among others. The needs and expectations from the health system tend to increase and change during that time, which is often reflected on decreased satisfaction rates of middle-aged patients with primary care. Our objective was to assess satisfaction of middle-aged (40-59y/o) working adults with the services of St Martin's Medical Centre, via a patient satisfaction survey, and accordingly make meaningful recommendations for Quality Improvement (QI) projects to improve satisfaction and health outcomes.

Methods: A needs and assets analysis was preliminary carried out, using published patient satisfaction surveys to note previously identified weaknesses in healthcare delivery in the borough and St. Martin's Medical Center. The patient satisfaction survey was accordingly developed as a questionnaire, including optional demographic questions and a mix of ranking, rating, multiple-choice and free text response questions on current and overall performance, areas of improvement, importance of several factors relating to GP services and support to manage chronic conditions. The survey was electronically distributed as a Qualtrics link to 300 registered patients that met the desired demographic (40-59, employed). Statistical data analysis allowed for a mean overall satisfaction score to be calculated (6.25 (±1.64)). Parameters of satisfaction with service use were ranked based on a calculated mean importance score, with appointment availability ranking first and facilities' cleanliness and hygiene last. Physical examination during the appointment, seeing the preferred healthcare specialist and staff professionalism ranked in between, in that order. Suggested areas of improvement were categorised using a sunburst diagram. All findings were used to inform recommendations for future QI projects, which were presented to St Martin's Medical Centre.

Discussion: The overall satisfaction rate of employed middle-aged patients with St Martin's Medical Centre services was below the national average and decreased, in comparison to previous patient satisfaction survey findings. Decreased appointment availability was central to decreased satisfaction and consistent with the notable negative effect of the pandemic on appointment availability NHS-wide. Management of chronic conditions and experience with staff was overall found to be above average and satisfactory. Therefore, it was recommended that future QI projects focus on better appointment booking and management to increase

availability. On improving satisfaction of employed middle-aged patients specifically, appointments outside working hours (late evenings), punctuality in telephonic consultations and more face-to-face appointments were suggested.

EP 018 COVID-19 VACCINATION IN CHILDREN:WHAT ABOUT SAFETY AND EFFICACY?

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Background: Currently, over 500 million confirmed COVID-19 cases have been recorded, including over 6 million deaths, according to WHO. Although SARS-CoV-2 infection is mild in children and adolescents, young people are still a source of transmission and emergence of new variants. Thus, it is urgently required to develop safe and effective vaccines against SARS-CoV-2 for children and adolescents to further enhance herd immunity and curb the COVID-19 pandemic.

Aim: The aim of this study was to assess safety, immunogenicity and efficacy data on COVID-19 vaccines among children and adolescents.

Methods: An extensive literature search was conducted regarding safety, immunogenicity and efficacy of COVID-19 vaccines among children and adolescents using the databases PubMed, WHO COVID-19 database and SCOPUS. Five studies were retrieved with a total of 9885 children and adolescents aged 3-17 years old. Out of the 5 studies, 1 is still ongoing ,placebo-controlled, observer-blinded trial, 1 ongoing phase 2/3, placebo-controlled trial, 1 ongoing phase 2/3 randomized trial, 1 double-blind, randomised, controlled, phase 1/2 clinical trial and 1 randomised, double-blind, controlled, phase 1/2 trial.

Results: Three vaccines are currently available for use among children and adolescents.
• BNT162b2 : nucleoside-modified messenger RNA encoding the SARS-CoV-2 spike glycoprotein
• mRNA-1273 : lipid nanoparticle dispersion containing an mRNA that encodes the SARS-CoV-2 S glycoprotein
• Inactivated SARS-CoV-2 vaccine
→ *Safety:* Local events: Mild-to-moderate including injection site pain (93-94%) , fatigue (48-68%), headache (45-70%), myalgia, chills. Systematic events: fever – more often after the 2nd dose. Both resolved rapidly within 1-2 days. No severe vaccine-related adverse effects on a follow-up period varying from 7days to 6 months after the vaccination (0,6-1,7%).
→ *Immunogenicity:* Production of a high immune response on a follow-up period varying from 1-6 months. Evaluating serum antibodies responses – induction of effective neutralizing antibody titer and serum-neutralizing GMTs . (Seroconversion varying from 75-100%).
→ *Efficacy (75-100%):* Protection against COVID-19, hospitalization and critical illness. Follow up period: at least 7 days after vaccination.
Limitations: Short follow- up period regarding safety, immunogenicity and efficacy.
Long-term safety: cases of myocarditis / pericarditis were not reported, mainly due to the short follow-up periods.
Long term immunogenicity: is there a need for booster doses over the years like the influenza vaccine?

All studies were based on non-inferiority criteria (comparison to older adolescents and adults) , and p-values could not guaranty for powerful statistical conclusions.
The studies were conducted on small sample sizes and lack of racist and ethnic diversity.

Conclusion: COVID-19 vaccines are safe, immunogenic and efficacious among children and adolescents. However, continuous monitoring with larger scale real-life clinical trials and longer follow-up periods is required to better evaluate efficacy and immunogenicity in this particular population and precisely record rare adverse events.

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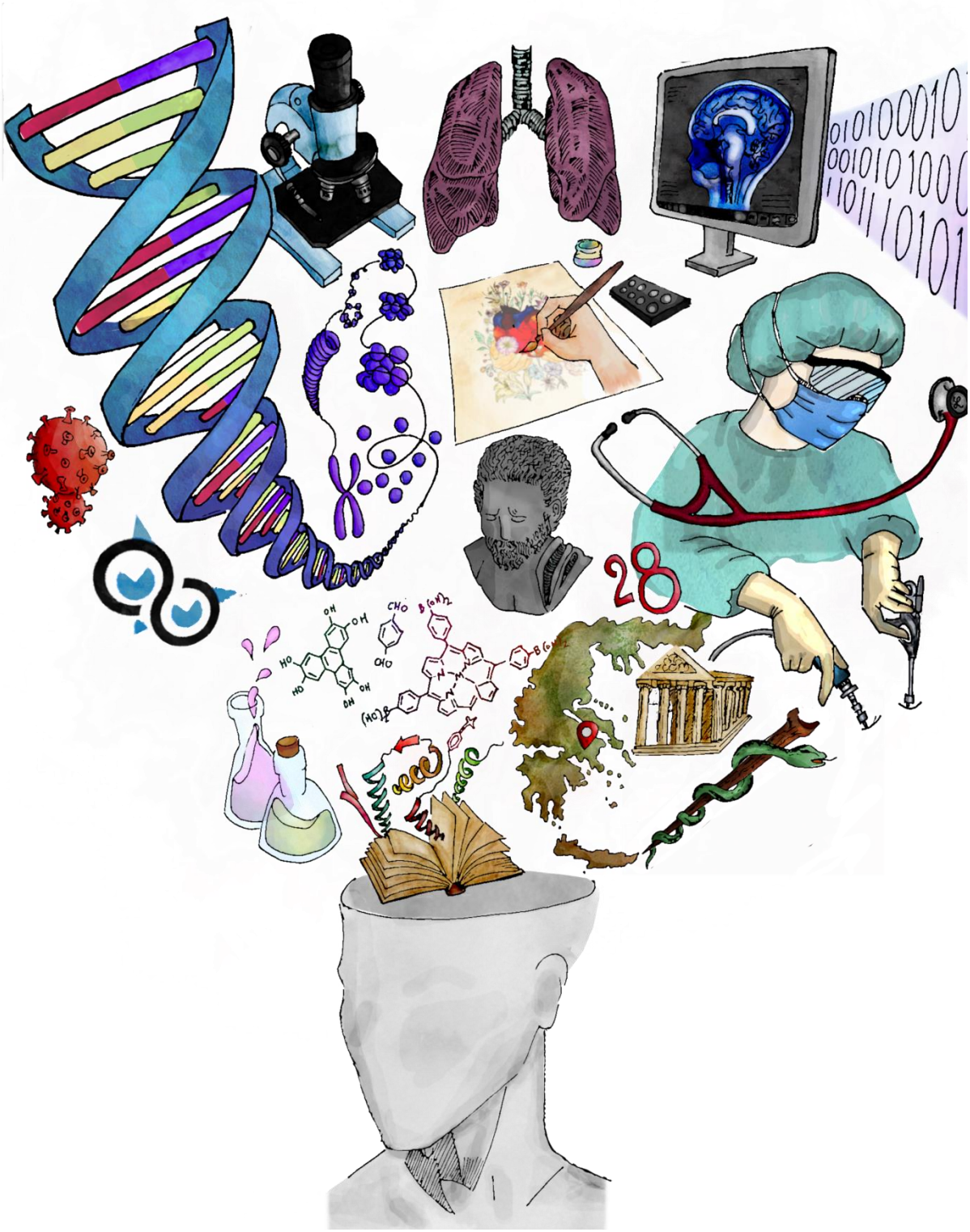
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