

# XVI CONFERENCE OF ASAI

## ABSTRACT BOOK

ALBANIAN SOCIETY OF ANESTHESIOLOGISTS & INTENSIVISTS



ASAI

2-3 DECEMBER 2022

# MAIN TOPICS:

COVID 19  
ANESTHESIA  
INTENSIVE THERAPY  
PAIN THERAPY  
NURSING CARE

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## OP.1

### The future of anaesthesia and ICM: the ESAIC perspective

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## OP.2

### Critical incidents in paediatric anaesthesia

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#### Abstract

The incidence, nature and outcome of critical events and potential risk factors in children undergoing general anaesthesia have not been comprehensively studied in Europe. The majority of relevant studies (1971-2014) focused on either a single hospital or a single country. On the other hand, the definition of perioperative complications varies from study to study, making comparative evaluation difficult.

APRICOT, a prospective multicenter study tried to fill the gap including children from newborn to 15 years old who underwent planned or emergency procedures for diagnostic or surgical reasons from April 2014 to January 2015. 261 centers from 33 European countries participated with 31,127 administrations of anaesthesia in 30,874 children with an average age of 6 years.

In the protocol there was a detailed definition of the critical incidents. The results of the study presented the following frequency:

Critical incident	Frequency
Laryngospasm	1,2%
Bronchospasm	1,2%
Pulmonary aspiration	0,1% -9,3/10.000
Wrong administration of drugs (kind of drug, dosage or site)	0,2%
Anaphylaxis	0,01%
Cardiovascular instability that required intervention	1.9%. 5.5% of them had a poor outcome
Neurological damage	1.6/10 000 or 0.02%
Perioperative cardiac arrest	0,03%

	(Hypoxaemia 40%, low cardiac output 40%, hypotension 20%)
Laryngitis during recovery	0,7% in total, 1,1% after tracheal intubation
Overall average frequency	5,2%

The incidence of serious critical events was significantly related to ASA-PS status

I	3,5%
II	5,7%
III	9,0%
IV και V	15,0%

The mean incidence of perioperative critical events was 5.2%. It was significantly higher during general anaesthesia than during sedation (2.69%).

Of a total of 1637 events, 283 (17.3%) resulted in additional post-anaesthesia care, prolonged hospitalization or both.

In all age groups the first cause were complications concerning the respiratory system. The incidence of complications concerning the respiratory system was 3.1%.

The incidence of complications concerning the cardiovascular system was 1.9%. The 5.4% of the cardiovascular complications (0,1% in total) required immediate intervention and led or could lead to major disability or even death. The cardiovascular complications were observed mainly in newborns and infants.

The overall mortality at 30 days of hospitalization was 10/10,000 or 0.1%, independent of the type of anaesthesia, completely according to previous studies. None of the reported deaths was directly related to anaesthesia.

The age was an independent risk factor with a relative risk of 0.88. A significantly higher incidence of both respiratory and cardiovascular complications was observed in children under 6 years of age.

The statistical analysis suggested that children younger than 3 years old should be anticipated in tertiary care hospitals or by well-trained anaesthesiologists to reduce the number and improve the outcome of anaesthesia related critical incidents.

The APRICOT results, supported with similar evidence from the literature, declare with confidence that a specialist pediatric anaesthesiologist must manage anaesthesia procedures of children less than 3 years of age with an ASA-PS at least III, as well as of children with a medical history of prematurity, congenital disease, airway hypersensitivity (a composite risk factor with recent upper tract infection less than 2

weeks, wheezing in the last 12 months, asthma diagnosis, and passive smoking), snoring, and a medical condition presenting with fever or requiring medication.

The above should draw the attention of the national and regional bodies as well as the scientific societies so that:

1. implement safety and quality improvement strategies to reduce the risk of serious critical incidents in pediatric anaesthesia.
2. establish relevant guidelines.
3. create a European harmonization of education and continuing professional development in pediatric anaesthesia.
4. establish criteria to assess the skills to administer pediatric anaesthesia
5. create a European Reporting System for pediatric anaesthesia critical incidents.

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### OP.3

#### Role of biomarkers in severe pediatric infection

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#### Abstract

Procalcitonin (PCT) has been evaluated as a biomarker to assist the pediatricians in the diagnosis, monitoring, prognosis and treatment of bacterial infection and as a guide to the duration

of antibiotic treatment. Leukocyte count, immature white cell count, and C-reactive protein (CRP) value have been generally used to distinguish between bacterial and viral infection, but they are unspecific. Up to 50% of antibiotic use in the pediatric inpatient setting is unneeded or inappropriately long. The appropriate use of antibiotics is essential to prevent antibiotic resistance and improve the prognosis. Use of PCT in pediatric patients is associated with decreased antimicrobial usage without worsening of clinical outcomes. PCT is a dynamic biomarker and most useful when trends are analysed over time accompanied by other clinical data.

In recent years, numerous studies, especially in adults, have been published on the usefulness of PCT as a biomarker of response to antimicrobial treatment and stewardship guided by PCT. All studies have demonstrated similar results - antibiotics were started and concluded depending on the PCT levels and the PCT-guided group had a significantly shorter antibiotic duration without any complications. In pediatric PICU patients 2-day antibiotic reduction is found in nosocomial infections, without an increase in complications. Also in newborns with early onset sepsis, results show a reduction of almost a day (22.4 hours) in antibiotic therapy.

Major problem in young infants in an emergency department (ED) is fever without source (FWS). PCT was the most useful biomarker to predict invasive bacterial infections (IBI) in infants with FWS, even in rapidly evolving cases with fever duration of less than 8 hours, establishing the optimum cutoff for PCT 0.9 ng/mL and the optimum cutoff for CRP 91 mg/L. Procalcitonin will be available 24 hours a day and will be run as needed. Normal value is below 0,1 ng/mL. A value of 0.1 µg/L will be flagged as elevated.

In suspected lower respiratory tract infection (LRTI) values between 0.1 – 0.25 ng/mL decrease the likelihood for bacterial infection, antibiotics are discouraged, and values of more than 0.25 ng/mL increase the likelihood of bacterial infection and antibiotics are here encouraged. In pediatric patients, viral pneumonia is clinically similar to bacterial one, and radiology and laboratory data do not increase diagnostic exactitude. Viruses are typically the cause of acute bronchitis but, despite this, as much as 80% of patients will be prescribed antibiotics. The median PCT value in bacterial pneumonia was 2.09 ng/mL vs 0.56 ng/mL in viral pneumonia. PCT makes it unable to distinguish between viral infection and infection with *Mycoplasma pneumoniae* or *Chlamydia pneumoniae* and it has not been proven that PCT

helps to reduce the duration of antibiotic treatment in adults.

In suspected sepsis in children, recommendation is to consider strongly initiating antibiotics in all unstable patients. The higher value of PCT is the greater severity of sepsis. PCT values of more than 24.5 ng/mL were present in septic shock, values between 1.16 and 9.33 ng/mL corresponded to both sepsis and SIRS, and values below 0.89 ng/mL were rarely present in septic patients.

Pediatric patients with bacterial meningitis have PCT level more than 5 ng/mL.

PCT values higher than 0.5 ng/mL have a sensitivity of 70-90% and 80-90% specificity for renal involvement in pediatric urinary tract infections (UTIs).

In pediatric hemato-oncology patients with neutropenia, PCT induction may be reduced but not inhibited; so lower limit values, probably between 0.1 and 1.5 ng/mL, would be recommendable.

Paraneoplastic syndromes and small cell lung cancer in children as in adults, may induce PCT elevation. PCT has not been shown to be a good biomarker in localized bone infections, septic arthritis, and soft tissue infections in children and adults. It is possible that the cutoff level required to differentiate this localized pathology is much lower than the one currently available.

PCT in the pediatric critically ill patient is very important because of its contribution to warning of risk of nosocomial infection and its implications in life prognosis. High PCT should serve to warn about nosocomial infection in those patients without other causes of higher PCT such as cardiopulmonary arrest and some kinds of surgeries, especially with PCT levels up to 2 ng/mL. It is also useful for diagnosing catheter-related-infection in those patients in whom other infections are also under study.

PCT rises proportionally to the severity of tissue damage and hypovolemia in polytrauma. In polytraumatized pediatric patients the rise in PCT is associated with increased overall risk of complications (prolonged ICU stay, severe sepsis, septic shock, and higher mortality rate).

In children after surgery, the response of PCT also varies depending on the type. In major abdominal surgery PCT levels may rise 2 ng/mL, especially in dirty surgery. This increase is short-lived, and PCT levels fall 24 to 36 hours after surgery. A daily determination of PCT could be helpful in detecting increases after this time to alert about the presence of infection. In cardiopulmonary bypass (CPB) patients, PCT may also increase in relation to CPB time, as CPB is a potent inducer of SIRS. Many factors influence this increase (anesthesia,

endotoxins, trauma, and tissue ischemia). In these postoperative periods, the normal cutoff values should probably start from higher normal values, around 2 ng/mL and therefore it is important to monitor them daily. Values greater than 10 ng/mL should be considered as septic complications.

When speaking of PCT in neonates after CPB, it appears that PCT values above 4 ng/mL at 24 hours and 5 ng/mL at 48 hours post-CPB should alert the clinician to infectious complications. PCT has not proved useful during the first 7 days after liver transplant in pediatric patients, taking a week to fall to normal levels (0.5 ng/mL).

Higher PCT levels were found prior to and after surgery in newborns affected by gastroschisis compared to other patients (congenital diaphragmatic hernia or intestinal atresia), explaining this difference with bacterial contamination of the exterior gastrointestinal tract and decreased intestinal circulation.

In neonates a few issues concerning PCT must be understood when interpreting the clinical relevance of the level: the physiological increase after the first 6h of life during the first few days (acute inflammatory reaction in the peripartum) and the kinetic differences for preterm infants (delayed plasmatic peak and prolonged return to the basal level). The PCT level of the umbilical cord avoids the postnatal physiological increase. The threshold positive level for PCT of the umbilical cord is 0.6 ng/mL and is the same for neonates, whenever the term of birth is. From the third day of life PCT values should be the same as those discussed in older children and in adults.

Reference levels in low premature newborns with gestational age <32 weeks were different according to postnatal age: higher in those with lower gestational age or with fewer days.

Neonatal sepsis is a leading cause of global mortality in young children. Early-onset neonatal sepsis (EOS) is defined as a systemic infection occurring within the first 72 h of life. EOS has mortality rates as high as 30% in high-income countries and up to 60% in low-income countries.

Prompt diagnosis and treatment of neonatal early-onset sepsis are crucial in preventing severe morbidity and mortality. Initial clinical presentation of EOS is often nonspecific; and commonly used laboratory indicators have low predictive values for early sepsis, which presents a daily challenge to clinicians involved in neonatal care. The majority of premature neonates (78.6% of <1,500 g and 87% of <1,000 g) and 40-74 % of term and late-term neonates receive large spectrum antibiotic therapy within the first 3 days of life, empirically due of risk factors for infection, which is often justified within a context of

maternal infection and non-specific or absent neonatal clinical symptoms. The prevalence of culture-proven early-onset sepsis is less than 0,1%, which suggests that antibiotic treatment may be required. Antibiotic therapy in early life disturbs the microbial flora that colonizes the neonate, increases the risk of delayed bacterial infection, necrotizing enterocolitis and death, and might be associated with health problems such as eczema, allergies, inflammatory bowel diseases, and increased weight gain.

Combining serial procalcitonin measurements with initial assessment based on perinatal risk factors, the neonate's clinical signs and symptoms, and conventional laboratory variables support antimicrobial stewardship and help physicians decide to discontinue antibiotic treatment sooner in neonates classified as having low or moderate risk of infection.

PCT has the highest negative predictive value of all established biomarkers for EOS and severe invasive bacterial (SBI) infections in neonates, and seems the best intervention to significantly reduce duration of antibiotic treatment.

#### OP.4

##### **Enhanced recovery after surgery (ERAS): The anesthesiologist role**

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##### **Abstract**

Enhanced Recovery After Surgery (ERAS) is a multimodal, multidisciplinary approach to the care of the surgical patient based on published evidence. It involves a team consisting of surgeons, anesthesiologists, and nurse and staff from units that care for the surgical patient. The ERAS Society promotes, develops, and implements ERAS programs, publishes updated guidelines for many operations, such as evidence-based modern care changes from overnight fasting to carbohydrate drinks 2 hours before surgery, minimally invasive approaches instead of large incisions, management of fluids to seek balance rather than large volumes of intravenous fluids, avoidance of or early removal of drains and tubes, early mobilization, and serving of drinks and food the day of the operation. Enhanced Recovery After Surgery protocols have resulted in shorter length of hospital stay and reductions in complications,

while readmissions and costs are reduced. The elements of the protocol reduce the stress of the operation to retain anabolic homeostasis. Enhanced Recovery After Surgery started mainly with colorectal surgery but has been shown to improve outcomes in almost all major surgical specialties including: bariatric, breast, plastic, cardiac, colorectal, esophageal, head and neck, hepatic, gynecologic, neurosurgical, orthopedic, pancreatic, thoracic, and urologic surgery. Pain control is an integral part of Enhanced Recovery after Surgery (ERAS) protocols for colorectal surgery. A variety of nonopioid systemic medical therapies as well as regional and neuraxial techniques have been described as improving pain control while reducing opioid use. Multimodal and preemptive analgesia as part of an ERAS protocol facilitates early mobility and early return of bowel function and decreases postoperative morbidity.

#### OP.5

##### **Integration of point-of-care ultrasound (POCUS) into anesthesia residency programs**

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##### **Abstract**

Ultrasound technology made tremendous changes in medicine both in diagnostic and therapeutic capabilities and has been part of standard training in anesthesiology for more than four decades. Point-of-care ultrasound (PoCUS) is a bedside and essential tool for anaesthesia and critical care physicians and has found utility in multiple medical specialties. PoCUS provides an efficient method in diagnosis and management of patients.

Anaesthesiologists and intensivists' ultrasound skills started with intraoperative transoesophageal echocardiography, followed by vascular access and regional anaesthesia and in last few decades PoCUS utility spread for hemodynamic, respiratory, neurologic and trauma patient's assessment. In recent years replacing traditional imaging become very helpful speeding up the right diagnosis and treatment.

Although bedside ultrasound imaging has been integrated into the curricula of many medical schools, recent studies showed remarkable heterogeneity in ultrasound training programs all around the world. and the need for a standardized ultrasound training program remains a relevant

issue. It is of utmost interest to reveal the current state and limitations of ultrasound training in anaesthesia and critical care residency programs and identify the weaknesses and strengths and make proper steps toward improvement of education system.

Dedicated mandatory PoCUS training through structuring a consensus agreed curriculum for intensivists and anaesthesiologists will enable residents to further develop and improve skills to perform and interpret bedside ultrasound images. Incorporating PoCUS findings into their clinical reasoning is additional value for better care of acutely ill patients.

**Keywords:** PoCUS, Ultrasound, Point of care, education, training, anesthesiology, residency

### **OP.6**

#### **Peripheral nerve blocks with USG**

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#### **Abstract**

Ultrasound guidance has greatly influenced the practice of regional anaesthesia in the last 15 yr. Regional anaesthesia makes a simple demand on the clinician: that the right dose of the right drug is put in the right place. The argument for the widespread use of ultrasound is that direct visualization of the needle, the anatomy, the neural structures, and the spread of local anaesthetic can only enhance the anaesthetist's ability to satisfy this simple demand.

The introduction of ultrasound into clinical practice brought a solution to this subject. The first paper in this field was published in 1978. A Doppler ultrasound blood flow detector was used to facilitate supraclavicular brachial plexus block. At this time, detailed knowledge of the ultrasonographic appearance of neural structures was poor, and the ultrasound technology was not suitable for visualization of nerves. The first direct use of ultrasound for a regional block was in 1994, again for supraclavicular brachial plexus block. In the ensuing 10 yr, ultrasound technology advanced in parallel with the understanding of its use and the development of block techniques which suited the use of ultrasound.

The increased interest and investment in ultrasound led manufacturers to design machines specifically for regional anaesthesia, and software to facilitate peripheral nerve blocks. Better quality

images should produce better quality blocks. Recent studies have demonstrated the cost effectiveness of ultrasound-guided regional anaesthesia in daily clinical practice.

Ultrasound imaging is increasingly used to guide peripheral nerve blocks. Ultrasound guidance allows real-time visualization of nerves, surrounding structures, and the needle-tip to maximize block success and minimize complications. Unlike other imaging modalities (ie, magnetic resonance imaging and computed tomography), ultrasound equipment is portable and carries no risk of ionizing radiation.

This topic will discuss the basic principles of ultrasound imaging, the equipment used, and techniques for ultrasound guidance for peripheral nerve block. we will review ultrasonography and its application to a commonly employed peripheral nerve blocks: Infraclavicular Brachial Plexus Block, Femoral nerve Block, TAP block, ESP Block.

### **OP.7**

#### **Organ Perfusion and Preservation Strategies in Transplantation: state of art.**

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#### **Abstract**

Current advanced technologies in organ transplantation are the fruits of more than a century of pioneering efforts in surgery. The field of organ transplantation is undergoing scientific and technological developments in harvesting and procurement techniques; however, the imbalance between the demand and supply of organs remains the major problem. Extended criteria donors (ECD) are widely utilized due to organ shortage, but they may increase the risk of graft dysfunction and poorer outcomes. Organ donors can be of two different types: brain dead (DBD) or cardiac death (DCD). Their difference relies in the extent of organ perfusion: organs of DBD donors are perfused until the moment of preservation, while organs from DCD donors inevitably suffer from a variable degree of warm ischemia before preservation begins, with more adverse outcomes for the graft. different techniques of organ preservation have been developed in order to increase the number of viable organs and bolster the supply line:

- Static cold storage
- Perfusion systems (sub-normothermic / normothermic / hypothermic) - Subzero

## Preservation

### - Integrated systems

The goal of organ preservation is to keep tissues alive ex-vivo in the absence of nutrient supply, waste removal, and physiological stimulation. If this were not to happen, the major adverse outcomes would include necrosis (with consequent loss of graft function) and ischemia-reperfusion injury, playing an important role in both short-term and long-term rejection.

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### OP.8

#### The Partnership between Surgeons and Anesthesiologists

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#### Abstract

Teamwork is now recognized as essential to healthy, high-quality perioperative treatment. The partnership in-surgeon – anesthesiologist dyad is perhaps the most important aspect of the overall team success. Well-functioning collaborations are conducive to secure, successful treatment. An unhealthy relationship can foster unhealthy conditions and lead to a negative outcome. And there is no study on this interaction, about what fits well or not well, and what can be done to improve it. This essay discusses the practical and unhealthy facets of the relationship, describes certain common perceptions of each occupation and calls for study to further identify and appreciate how to strengthen working relationships. Teamwork is one of the most important factors of perioperative patient care for the members of the operating room team. However, the largest uncertainty of the impact of team success on results and protection can be correlated with one dyad in the unit: the relationship between the surgeon and the anesthesiologist. If it is accurate that leadership dyads are a crucial factor in the protection, consistency and/or efficacy of the operating room

staff, then the dyad of the surgeon and anesthesiologist is the dyad we should strive to learn and maximize. The triad partnership between the surgeon and the anesthesiologist and others is also crucial to maintaining safety, efficiency and consistency. The relationship between the two physicians who often share, give or fight for leadership has the ability to allow or hinder performance that may exceed that of the other dyads or multiple, parallel interactions.

### OP.9

#### The Laryngeal Mask Airway in the prone position

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#### Abstract

**Introduction:** The Laryngeal Mask Airway (LMA) has been in use for many years. The LMA was conceived initially as an intermediate between the face mask and the endotracheal tube and only for short surgeries. In time and with accumulating experience and variations in the design the LMA was progressively used in many other surgeries: ENT, laparoscopy, orthopedics, gynecology etc. The traditional insertion was with the patient supine and occasionally in the left lateral position. The technique of electively inserting the LMA while the patient is already prone is less known and even less practiced. Fear of unexpected airway events (laryngospasm, difficult ventilation), unfamiliarity with the LMA use, make many practitioners fearful of even thinking of such a practice. While personal preferences and cautions are normal and should be respected, the technique of inserting the LMA in the prone position should be known and practiced at least on a mannequin, as an escape route in an emergency; for example: the accidental extubation of a prone patient when the immediate supine position for reintubation cannot be achieved, an unconscious patient trapped under a vehicle in a road accident. I present a simple technique of inserting the LMA in the prone position, as well as some safety measures that must be respected in order to position the patient safely both for airway management and the safe conduct of surgery.

This presentation brings to the audience my personal experience of more than a decade of safely using this technique. In my practice pilonidal and rectal surgeries are performed on a routine basis with the LMA inserted while the patient is already prone. In very rare occasions I needed to flip the patient supine. I can remember of about 3 cases in this scenario.

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#### OP.10

##### Mechanisms of thrombosis and vasculitis in Covid-19

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Dean of the Faculty of Medicine, University of Medicine, Tirana*

#### Abstract

The Covid-19 pandemic is not over yet! The viral infection COVID-19 is caused by the SARS-CoV-2 strain and is characterized by an excessive inflammatory response that can lead to severe manifestations such as Severe Acute Respiratory Syndrome (SARS), Sepsis, Multiple Organ Failure (MOF), Diffuse Coagulopathy, and of course death. Total cases 550 378 571 Death 6 353 028 New daily cases 533 461 (June 2022)

#### OP.11

##### Is vitamin D deficiency a risk factor for intensive care hospitalization in patients with covid-19 pneumonia? A retrospective observational study.

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#### Abstract

**Introduction:** The hypothesis of a pathophysiological link between hypovitaminosis D and covid-19 is currently being discussed. However, the incidence of vitamin D deficiency is

also high in intensive care patients. The objective of this study was to assess whether vitamin D deficiency was an independent risk factor for intensive care hospitalization during covid-19 pneumonia.

**Material and method:** This was a retrospective, observational, single-centre study that focused on an almost annual cohort (from 03/19/2020 to 12/31/2020) comprising a group of patients in intensive care for covid-19, a group in non-covid-19 resuscitation, and a covid-19 group hospitalized in medicine. Patient demographic and clinical characteristics at admission were collected. The factors associated with admission to intensive care for covid-19 were assessed in univariate analyses, followed by a multivariate model. Vitamin D deficiency was considered at  $<25$  nmol/l/.

**Results:** 234 patients were included: 54 covid-19 resuscitations, 116 non-covid-19 resuscitations, and 64 covid-19 medicine. The prevalence of vitamin D deficiency was 55.56%, 31.03%, and 28.12% respectively. In univariate analysis, BMI $>40$ , cancer, long-term corticosteroid therapy, albuminemia, and vitamin D deficiency were associated with admission to intensive care for covid-19. In multivariate analysis, vitamin D deficiency was an independent factor significantly associated with intensive care hospitalization; GOLD: 2.16 [1.081; 4.33] 95% CI  $p=0.03$ .

**Conclusion:** Vitamin D deficiency could be an independent risk factor for hospitalization in intensive care for covid-19 to be confirmed by subsequent studies. Hypovitaminosis D could be an element to take into account when personalizing care.

#### OP.12

##### COVID-19 - Complications and their Management. Experience in the Covid Hospital 1,3,4.

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#### Abstract

The Infectious Service is ranked the 1st and largest Covid-19 management center in Albania with 3 hospitals Covid 1, 3 and 4. Over 10,000 cases have been hospitalized and followed up in the 3 hospitals of the Infectious Service over a period of over 2 years. Already in our Service, a very large and very wide experience has been created in relation to the management of Covid-19, like never before in Albania.

In our clinical cases, we built special modules for the clinical, biological and imaging aspects of the disease as well as evidenced its complications by grouping them according to the organs and systems of the organism and their importance. They were determined based on adequate protocols and followed up with the respective specialists. Pulmonary-Hypoxemic respiratory failure, ARDS, TEP, spontaneous pneumothorax, pneumomediastinitis, pneumomediastinum with massive subcutaneous emphysema, bacterial lobar pneumonia, pulmonary fibrosis. Neurological: Cerebral stroke, cerebral hemorrhage, anosmia, dysguesia, encephalitis, unilateral paresis, left facial paresis, Guillen Barre; Cardiac - Myocardial infarction, myocarditis, cardiac rhythm disorders, complete/partial atrio-ventricular block, acute heart failure, acute decompensation of chronic heart failure; Thrombotic ischemic events- Mesenteric infarction, mesenteric thrombosis, lienal thrombosis, venous thrombosis of the right arm, arterial thrombosis of the left arm, venous thrombosis of the left leg, venous thrombosis of the right leg. Ocular: Hemorrhagic conjunctivitis, ENT / Maxillo-Facial, Significant unilateral/bilateral hearing loss, gingivitis, loss of dental fillings, oral aphthous, labio-oral candidiasis. Hemorrhagic events - Hematemesis, melena, metrorrhagia, hematuria, hemoptoea, hemorrhagic shock, rectus abdomen muscle hematomas, subcutaneous hematomas. Renal/Urological: Acute renal failure, acute sequence of chronic renal failure, urinary tract infection, unilateral septic orchitis, Hepatic - acute anicteric hepatitis. Dermatological - Cutaneous vasculitis, total alopecia, alopecia areata, livedo reticularis, decubitus, purpura. Endocrine - persistent high hyperglycemia, rupture of diabetes mellitus, thyroid with hypothyroidism, pancreatitis, diabetes insipid. Psychiatric - rebellious insomnia, psychosis, anxiety, delirium, memory alterations. Hematological - anemia, leukopenia, lymphopenia in women thrombopenia, leukopenia + anemia / leukopenia + thrombopenia, pancytopenia. Obstetrical- Premature birth, maternal and fetal death. Metabolic - hypokalemia in women, hypernatremia and hyponatremia in women, severe decompensated respiratory acidosis, severe, irreversible ketoacidosis, marked acute organic deterioration, multiorgan failure, sepsis, septic shock: Allergic - urticaria, angioedema. Conclusions: In 17 organs and systems with about 83 types of complications, what makes this virus a multisystemic syndrome in women with serious short-term and long-term consequences.

### OP.13

#### Management of Acute Respiratory Failure in patients with COVID-19 in Intensive Care (Case Report)

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#### Abstract

**Introduction:** Based on reports on SARS-CoV-1 and Middle East respiratory syndrome infections, pregnancy has been considered a predisposing factor to severe COVID-19, with pregnant women being a high-risk group for several physiological reasons. Specifically, pregnant women undergo physiological adaptations that predispose them to severe respiratory viral diseases, including SARS-CoV-2. However, a significant amount of evidence suggests that the clinical outcome of COVID-19 among pregnant women is not different from the general population. In view of this, this report discusses the physiological conditions in pregnant women that adversely affect their immunity, cardiovascular homeostasis, and their endothelial and coagulopathic functions, thereby making them more prone to severe viral infections.

**Case presentation:** A 19-years-old woman, 34 weeks pregnant, was admitted to our (a dedicated COVID-19 hospital SUSN ) with a history of dyspnoea, subfebrile 37.2 – 37.8 fever, body aches, myalgia, anorexia, cough; fatigue. Oral and nasopharyngeal swabs were positive for SARS-CoV-2 on real-time PCR. Initial assessments were carried out, including regular monitoring and recording of vital signs, mother's blood ABG, uterine contractions, laboratory tests, and fetal heart rate. She had type 1 respiratory failure and oxygen saturation of 85%, so was put on non-invasive ventilation (CPAP). She was then seen by the multidisciplinary COVID-19 team including a senior obstetrician, respiratory physician and anaesthetist; and according to our institutional guidelines, treatment was started for severe COVID-19 pneumonia. Treatment as per guidelines was started. Given her deteriorating condition, a decision to deliver was taken and induction of labour was done. Her condition improved immediately after delivery.

**Conclusion:** It has been seen that continuation of pregnancy in pregnant women who have severe disease and lung infection may cause respiratory compromise, which may be fatal. An individualised approach needs to be adopted as early delivery will help in improvement in such cases. Pregnant

women are particularly vulnerable to infectious diseases that can cause both maternal and fetal adverse outcomes. Complications of COVID-19 require prompt identification and treatment.

**Keywords:** Covid-19, CPAP, pregnancy, delivery, respiratory failure, neonate.

#### OP.14

##### A Single Center Experience with ARDS Covid-19

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##### Abstract

**Background:** Acute respiratory distress syndrome from COVID 19 (ARDS) is a lung disease responsible for significant morbidity and mortality among critically ill patients regardless of advances in pathophysiology, diagnostic and therapeutics. There is still no general consensus on which treatment strategy is associated with best results. Many centers rely on expert consensus or own experience to treat these very sick cohort of patients. Specific COVID guidelines or standardized treatment algorithms are lacking.

**Methods:** This is a retrospective data analysis involving 139 consecutive patients who were treated with COVID 19 ARDS at GVM Tirana Hospital, Albania from December 2020 till August 2022. All comers were included in the study. Patient's demographics, co-morbidities, clinical course, treatment strategies and outcomes (mortality, complications) were studied using statistical software SSPS.

**Results:** 65% of patients were male, 35% were females. Mean age was 62.3 years. Mean length of stay (LOS) stay was 12 days, maximal LOS was 340 days. Overall in hospital mortality was 16.5%; ARDS stage (P/F ratio, Berlin criteria) related mortality: mild ARDS- 0%; moderate ARDS-0%; severe/critical 28.4 %. 29 patients were intubated. 12 patients (41.4%) were intubated early; 17(58.6%) patients were intubated late. Overall extubation rate was 58.6%; Extubation rate of early intubation (before day 14) strategy was 66.6%; Late intubation (after day 14) mortality rate was 64.7%(5 patients were discharged to other hospitals); / High prophylactic anticoagulation was administered in all patients, 2 patient 1.43% with major bleeding were complicated; 1 patient 0.71%

with PTE was complicated. The most frequent complications were Critical Illness Polineuropathies & Myopathies 33(23.7%); Delirium 28(20.14%); Secondary Infection 24(17.26%); MOF 19(13.66%); PNX 9(6.47%); AMI 4(2.87%). Overall prone position rate was 52.3%.

**Conclusion:** Covid 19 related ARDS is a severe disease with a very high mortality. It requires high expertise as well as massive human and medical resources. Risk factors for worse outcome were advanced age, presentation at late disease stage, high BMI, immune compromise. Our experience shows that prone positioning, early intubation (before day 14) with LPV (Lung Protective Ventilation) of severe or critical cases, high dose steroids, modern management of co morbidities are some of the most effective measures to lower COVID mortality and morbidity. Further studies are needed to identify specific markers of disease progression and response to treatment in order to come up with better management algorithms.

#### OP.15

##### Management of post, acute covid & long covid patients

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##### Abstract

**Introduction:** Post acute covid, according to NHS UK, is considered a multisystemic effect from the SARS COV 2 virus that persists from the third week to the fortnight and is not explained by other problems or pathologies.

According to NHS UK in 10% of buffer positive individuals the symptoms persist (not feeling well) after the third week. 10% of hospitalized patients need intercourse in the hospital after the third week. Long COVID hospitals have started to adapt in the UK.

**Methodology:** In American Hospital 1, only buffer negative patients were hospitalized after the 20th day.

Patients who needed more than 20 liters of O<sub>2</sub> per minute were admitted to intensive care.

Average age 62 years M:F ratio 9:1.

NIV, HFNC and VM are used in the most severe cases to support hypoxine. In some cases, hymecromone was also used, based on evidence from colleagues in Sweden (cases with imaging for DAD).

**Conclusions:** Patients who had a need for a progressive increase in the needs for O<sub>2</sub> also had a more serious prognosis.

The main cause of death is gene hypoxia.

**Discussions:** If consensus has been reached up to the first two weeks (however not complete), in the following days the therapy is mainly symptomatic according to the specific problems of the patients. Discussions are related to therapy which (which) can improve the progression of lung and/or other organ damage. Currently, no therapy scheme is su

#### OP.16

##### **Tocilizumab administration time: efficacy and consequences in Covid 19**

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##### **Abstract**

The spectrum of COVID-19 disease manifest with variable clinical presentations ranging from asymptomatic to severe and critical disease encompassing the immunologically mediated condition cytokine storm syndrome (CSS) with significant morbidity and mortality. The clinical entity of CSS is characterized by an intense activation of the immune system with the release of various inflammatory mediators including cytokines such as interleukin 6 (IL-6), IL-10, and tumor necrosis factor  $\alpha$  (TNF- $\alpha$ ) leading to systemic manifestations, end organs damage and eventually failure, and unfavorable outcomes.

Tocilizumab is interleukin-6 inhibitors that has been shown to hamper the catastrophic outcomes of CCS including the need for mechanical ventilation as well as reduce mortality, but the usage is limited by warnings of reactivation of potential latent infections or immune dysfunctions including severe neutropenia.

The median time from symptom onset to tocilizumab treatment was 9 days.

Late administration, the study reports no mortality benefits associated with the treatment, in addition to no safety signals with the tocilizumab treatment arm. Despite the negative results regarding tocilizumab efficacy, percentages of discharged

patients, or those ready for discharge, were higher in the treated patients with Tocilizumab by day 28, based on the baseline the WHO ordinal scal

**Keywords:** COVID-19 infection, cytokine storm, interleukine -6 receptor antagonist, tocilizumab.

#### OP.17

##### **Aspiration of foreign body at child and Anaesthesia**

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##### **Abstract**

Aspiration of foreign body are frequently encountered emergency cases of childhood. Delays in its recognition and treatment do result in serious morbidity and mortality.

Anamnesis of the patient is the first line activity, which should indicate what the foreign body is aspirated, which pieces of them, when it has happened, which is the first symptoms, any inflammation of respiratory trunk, and belated information can cause misdiagnosis.

For differential diagnosis of suspected presence of foreign body in tracheobronchial trunk and to eliminate another pediatric concern is required Bronchoscopy.

Child small airways were shared use by the anaesthesiologists and surgeon, further bronchoscopy is a challenging procedure which is required experienced teams with efficient method of intercommunication and also well planning of anaesthesia ahead and during of bronchoscopy. Fiberoptic bronchoscopy is recent popularization, but the rigid bronchoscopy remains to be used commonly and is regarded to provide gold standard technique.

There have been reports from the literature on the uses of inhalation and/or intravenous anaesthesia and controlled or spontaneous ventilation methods, without any practical or scientific superiority of each of them.

The most suitable methods of anaesthesia and ventilation and all preventive measures to avoid air obstruction, to do induction and maintenance of satisfactory anaesthesia for very stimulating procedure, a high risk of hypoxemia during the "shared airway" and the prevention or managing possible postoperative air way problems, would reduce the risk of complications, morbidity and mortality at child.

**Keywords:** Aspiration, foreign body, anaesthesia, bronchoscopy, child.

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## OP.18

### Pain problems. Pain as a notion

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Pain is a Subjective symptom and as such its assessment is subjective but in acute pain, Pain can be implicitly implied by changes in Vital Signs. Pain is an unpleasant, emotional, and sensory experience that is associated with, or is described by, actual or potential tissue damage. The pain ratio by the patient himself should be considered sufficient for pain placement and is measured through a scale of Pain, from Moderate Pain 1-4, Moderate Pain 4-7, and Maximum Pain 8-10, where 10 is pain maximal. Pain, being an unpleasant experience, is accompanied by an emotional response (suffering, anxiety) and a physiological response of the body to pain. Pain can trigger defense mechanisms eg. increased sympathetic influx leads to defense, muscle spasm, tachycardia, hypertension. It identifies and protects the site of injury, preserves body fluids, activates the stress response. Pain is a response to stimuli, which can be physical or psychogenic. Pain is very individual, it is a complex interaction between physiology and psychology. Pain relief can block both receptors and perception of pain signals. The pain arises from the activation of peripheral nociceptors. These nociceptors are terminal branches of small non-myelinated C sensory fibers and thin-layer myelinated A-delta nerve fibers. Many of these receptors can be stimulated by mechanical or chemical stimuli, cold, hot, and they are innervated by C fibers.

## OP.19

### Postoperative pain management and potential for improvement

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### Abstract

**Introduction:** Postoperative pain has been poorly managed for decades. Persistent postoperative pain is common after most surgical procedures.

1-The burden of untreated postoperative pain is high.

2-There is good quality evidence that supports many of the common agents utilized in multimodal therapy, however, there is a lack of evidence regarding optimal postoperative protocols or pathways.

3-Multimodal pain management provides additional pain relief until the fourth postoperative day, improves patient satisfaction at discharge, and reduces total narcotic consumption for postoperative pain management.

**Methodology:** The study was quantitative approach. The research was conducted during 5 years. Data were collected from 1924 patients in surgery, urology, orthopedics, ENT, ophthalmology, and gynecology/obstetrics of General Hospital of Prizren. Data about pain-related Patient Reported Outcomes and process data were collected on the first postoperative day. All patients gave oral consent to participate in study. General anesthesia was the most common form of anesthesia.

**Results:** From 1924 patients 1270 (66.2%) were females and 33.8% were males. From them reported that mean of maximum pain was 5.38/10 and minimum pain was 1.17/10. In general/abdominal surgery patients reported the worst pain (maxpain 6.06/10) and less pain was in Ophthalmology (maxpain 1.94/10). During general survey of postoperative pain management many daily clinical practices were needed to be improved. From the key findings can be mentioned the pharmacologic treatment of pain in combination with non-pharmacologic treatment, the evaluation of the pain, the continuous documentation, giving of analgesics according to the description and not "as needed" etc. Most patients in obstetrics have said that after taking pain injections, the pain after a few minutes has increased. It has been proven that nurses gave along with pain medication IM (Diclofen amp.) also uterotonic (Oxytocine) which causes uterine contractions which was associated with pain in patients which made the connection with taking analgesia. This problem has been avoided by giving the injections separately, ie at different intervals.

**Conclusion:** Patients after surgical procedures reported severe pain-related outcomes. It is needed to evaluate the pain in the sheet of vital signs monitoring. Based on these findings we recommend implementation of pain management programs and care policies to build pain management into standing orders, protocols and patient charts.

#### OP.20

##### Locoregional anesthesia and pain therapy under echo guide

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###### Abstract

**Introduction:** The progress made in the 80s and 90s with the introduction of ultrasound in clinical practice, as well as significant advances in the quality of the images obtained, has also led to an increase in its use. Its use in locoregional anesthesia combined with neuro electro stimulation has made a qualitative jump in the execution of different blocks, the modification of techniques as well as the reduction of doses of local anesthetics. It has also found use in epidural and spinal locoregional anesthesia in determining the intervertebral spaces, determining the suitable space, orienting the depth as well as in special situations such as structural ones of the vertebral column in pregnant women, etc. It also has an important role in therapy of post-operative and chronic pain. The use of local catheters placed under echo makes for better pain management and reduces the doses of analgesics used. Also, the introduction of new software programs in the clinical use of ultrasound creates the possibility of increasing the accuracy of manipulation and obtaining images in real time. The use of special age in continuous improvement is also a data for a future with more innovations. The combination of echo, neurostimulation and pressure measurement of anesthetic injection are the gold standard in locoregional anesthesia for the prevention of nerve damage in locoregional anesthesia.

#### OP.21

##### Aspiration Pneumonia in patient with Abdominal Aortic Aneurysm rupture

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###### Abstract

**Background:** Aspiration pneumonitis also called as Mendelson's syndrome is a lung injury from acute inflammation that occurs after chemical burns in the airways and lung parenchyma, caused by the inhalation of gastric contents. Depending on the quantity, nature of the aspirated material, and the host factors, the damage can lead to acute respiratory distress (ARDS) with a mortality rate up to 70%.

**Case report:** A 73 yo male, was admitted from the emergency department to cardiovascular surgery ICU, diagnosed with ruptured abdominal aortic aneurysm. The patient presented with severe hypotension, tachycardic with altered mental status and was immediately sent to the operating room. The operating table was set with low degree Trendelenburg position to help with the haemodynamic state, rapid sequence induction was performed with the application of cricoid pressure. However, during the induction, gastric content came out of the patient's mouth. Suction was immediately done, the patient was intubated with direct laryngoscopy, the tube cuff had its adequate pressure assured to prevent further aspiration. Bronchial lavage was performed before patient ventilation. Within two hours from the aspiration, during the surgery the patient developed acute respiratory distress. The arterial blood gas test was presented with hypoksemia in 100% with retention. Empiric antibiotic and corticosteroid were administered. After the surgery the patient was transferred in ICU and was ventilated according to the ARDS protocol. The patient was extubated after 9 days and was

discharged home after several weeks due to other complications associated with abdominal surgery.

**Discussion:** Regardless of the measures taken to avoid aspiration pneumonia during emergency surgery, it is sometimes inevitable and it is important to know how to act and treat the patient according to the primary underlying condition.

#### OP.22

##### **Advantages of Video Laryngoscope usage in tracheal intubation in comparison with conventional laryngoscope. Our clinic experience.**

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Ardit Kuqi

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#### *Abstract*

**Introduction:** For the past 5 years our unit of anaesthesiology and reanimation, during the tracheal intubation, has utilized video laryngoscope (VLS), which displays the larynx during intubation. The usage of it has facilitated the team's work.

**Content:** Advantages of video laryngoscope (VLS) usage in comparison with conventional laryngoscope:

1. Usage of VLS has increased significantly the success rate of tracheal intubation in the complicated one, Mallampati III-IV. In the course of these 5 years we did not have any case where the tracheal intubation could not be performed. Only with five patients, further precautions had to be taken to apply fibrobronchoscopy intubation.
2. Utilizing the VLS has simplified the intubation of face traumas with anatomy damage due to fractures of maxilla, mandibles, orbitals, os nasale etc, teeth damage, and when the mouth is filled with blood, secretions, vomit. Facilitates tracheal intubation in cervical spine traumas without doing deflexion of the neck.
3. During the Covid-19 pandemic, VLS was very helpful and protected the anaesthesiologists by reducing the risk of infection, because throughout the intubation the distance with the patient's mouth was farther.
4. While training for tracheal intubation of resident doctors by primary doctors, due to the control of the moment of intubation through the video screen, VLS increases the likelihood of performing a correct and safely intubation by residents, especially when

the possibility of measuring CO<sub>2</sub> is missing.

**Conclusions:** VLS has facilitated a lot the work of anaesthesiologist doctors during tracheal intubation, while guaranteeing the success of intubation especially on the complicated ones, in traumas of face, head, and cervical spine, aid the training process for tracheal intubation, decreases the risk of doctor's infection.

#### OP.23

##### **Anesthetic management of obstetric emergencies**

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#### *Abstract*

Every obstetrical emergency is considered a challenge both for the obstetrician and the anaesthesiologist. The incidence of caesarean sections in our tertiary center is approximately 40%. About 45% of all CS are performed in an emergency situation, whether maternal or foetal, while in 9% of cases, the decision to conduct a caesarean section is taken after the onset of labour pains.

The classification of CS regarding the urgency falls into four categories. For category 1, the target interval between decisions to delivery is less than 30 minutes. In order to respect this timely interval a rapid assessment, with minimal investigations is needed. General anaesthesia is still considered as gold standard in category 1 CS, despite the higher morbidity and mortality of this technique. Lately, rapid sequence spinal anaesthesia is replacing general anaesthesia for some of the category 1 indications.

Spinal anaesthesia remains the technique of choice for category 2, 3, and 4 caesarean sections. Massive obstetric haemorrhage is a major cause of maternal death and morbidity. It is variably defined as: blood loss >1500 ml; a decrease in haemoglobin >4 g/dl; or acute transfusion requirements >4 units. The gravid uterus receives up to 12 % of the cardiac output, thus obstetric haemorrhage can be unexpected and rapidly become life threatening.

A well-coordinated team is one of the most important elements in the care of a compromised fetus, because if fetal anoxia is presumed, there is less than 10 minutes to permanent fetal brain damage. Antepartum anesthesia consultation

should be encouraged in pregnant women on the onset of labour with medical problems.

**Key words:** Anaesthesia, caesarean, emergencies, obstetric

#### OP.24

##### **Anesthetic and surgical aspects in a former premature infant with a congenital cystic adenomatoid malformation (CCAM) in a Pediatric Surgery Intensive Care Unit**

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#### Abstract

Congenital cystic adenomatoid malformation (CCAM) is a benign lung lesion that, although a rare condition, is one of the most common congenital lung anomalies in newborns that develop during fetal life. It occurs as a defect in lung organogenesis of unknown etiology. Both lungs are equally affected. Although lung function is disturbed, its development remains unaffected. The incidence is estimated at 1:8.300 to 1:35.000 newborns. CCAM can be clinically asymptomatic or manifest as pneumonia associated with a cystic lesion. Conventional radiography (x-ray) and computed tomography (CT) contrast study of the thorax are required to prove the diagnosis.

We present a case of a 45-day-old premature male newborn, delivered by C-section in the 28th week of gestation with a birth weight of 1240 g and body length of 33 cm. He was reanimated immediately after birth and subsequently hospitalized at the neonatal intensive care unit of the Gynecology clinic, where he was intubated and placed on mechanical ventilation (respiratory modes AC, SIMV, and CPAP). During the stay, two attempts at extubation were unsuccessful.

Multiple x-ray examinations and contrasted CT imaging were undertaken. The latter showed lobulated and septated cavitation measuring 2.6 x 2.1 cm in the coronary plane with a thick and irregular wall that accumulated contrast. The infant was transferred already intubated, respiratory and hemodynamically stable, to the intensive care unit of our clinic, where further therapy was given and appropriate laboratory

panel, acid-base analysis, and radiography were performed. The decision to proceed to surgery was made, with an operative approach via right anterolateral thoracotomy. Upon entry into the thoracic cavity, we could identify an abscess in the organization phase of the upper lobe, as well as, a palpable cystic formation. Right upper lobectomy was performed with subsequent placement of thoracic drainage and routine thoracotomy closure. The child was weaning from mechanical ventilation on the third postoperative day while remaining stable and oxygen supplemented. The postoperative x-ray after extubation showed atelectasis of the middle and lower right lobe which was managed with respiratory physical therapy and inhalations. After two weeks, we could verify a complete re-expansion of the right lung with full recovery.

#### OP.25

##### **Perioperative Myocardial Infarction in Non-Cardiac Surgery Patients**

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#### Abstract

Cardiac complications represent the main cause of morbidity and mortality during surgical operations. Perioperative myocardial infarction is the most frequent cardiac complication with an incidence of 1-17% in all types of surgery. Patients with myocardial infarction after non-cardiac surgery have a particularly high in-hospital mortality during the first 30 days. 65-93% of patients with perioperative infarction do not have ischemic symptoms. In 50% of cases, myocardial infarction is not detected in the early stages. Clearly, this presents a major diagnostic problem. Perioperative myocardial infarction is characterized by dynamic thromboembolic obstruction due to the instability and rupture of the atherosclerotic plaque caused by increased luminal stress, endothelial activation, or the inflammatory process. Typically, perioperative myocardial infarction occurs in the postoperative period, in the first 48 hours (peak incidence during the first 100 min after surgery). Most of the patients are asymptomatic and diagnosis is based on signs and technology, not the symptoms. Only 14% of patients complains of chest pain. Biomarkers such as Troponins have almost absolute specificity for myocardial tissue and their dosage is the key of the diagnosis together with ECG changes. One of the most common initial manifestations of myocardial

infarction during the perioperative period is persistent hypotension, with possible nausea and sweating. Other signs include decreased oxygen saturation and ECG changes. Transesophageal echocardiography can be extremely helpful in diagnosis. Perioperative myocardial infarction requires a high medical experience for early diagnosis and adequate treatment

## OP.26

### Lung-protective mechanical ventilation in patients undergoing general anesthesia in abdominal surgery

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#### Abstract

**Introduction:** Postoperative pulmonary complications have a strong effect on morbidity and mortality of patients who have had abdominal surgery. Protective mechanical ventilation strategies using low tidal volume or high levels of positive end-expiratory pressure (PEEP) improve outcomes for patients who have had surgery. The role of the driving pressure, which is the difference between the plateau pressure and the level of positive end-expiratory pressure is very important in preventing postoperative pulmonary complications. We investigated the association of tidal volume, the level of PEEP, and driving pressure during intraoperative ventilation with the development of postoperative pulmonary complications. Because respiratory-system compliance is strongly related to the end-expiratory lung volume, especially in normal lungs, we postulated that the driving pressure, which is the tidal volume normalised by respiratory-system compliance, would be a better predictor of postoperative pulmonary complications than tidal volume normalised by the predicted bodyweight

**Methods:** Prospective randomized, clinical trial performed in 86 patients scheduled to undergo elective open abdominal surgery lasting more than 2 h. 44 patients were in mechanical ventilation with tidal volume of 6-8 ml/kg ideal body weight and PEEP 0-2 cm H<sub>2</sub>O. 42 patients were in mechanical ventilation with tidal volume of 7 ml/kg ideal body weight and PEEP 8-10 cm H<sub>2</sub>O and the use of recruitment manoeuvres. In both groups we maintain a driving pressure not more

than 15 cm H<sub>2</sub>O. Modified Clinical Pulmonary Infection Score, gasometry, were measured preoperatively, as well as at days 1,3 and 5 after surgery. Anesthesiologists physical status classification system, type of surgery, and presence of risk factors for postoperative pulmonary complications), mechanical ventilator parameters (plateau and peak pressure, PEEP level, respiratory rate, and inspired fraction of oxygen) obtained hourly during the procedure, oxygenation parameters (partial pressure of oxygen, partial pressure of carbon dioxide, and pH), and clinical outcomes (death, postoperative pulmonary complications, transfusion, length of stay in intensive care unit and in hospital).

**Results:** Patients ventilated protectively did not show better outcome up to day 5. 3 patients of this group and 4 patients of the other group present pulmonary complications. The modified Clinical Pulmonary Infection Score was not different between groups.

**Discussion:** Our findings suggest that the driving pressure during intraoperative ventilation is independently associated with development of pulmonary complications after surgery. In the past, ventilation with tidal volumes of as much as 15 mL/kg predicted bodyweight were advocated to treat and prevent atelectasis, as such preventing hypoxaemia. Although the size of tidal volumes with intraoperative mechanical ventilation has declined since 2000, tidal volumes of 10 mL/kg predicted bodyweight are still used. Thus, ventilation with such large tidal volumes in combination with a low compliance because of atelectasis could result in high driving pressure, which, according to our findings, is associated with increased risk for postoperative pulmonary complications. Indeed, the driving pressure can be considered as the tidal volume corrected for the static compliance of the respiratory system (or end-expiratory lung volume).

The protective role of intraoperative PEEP has been a matter of intense debate. Our group showed that the use of high levels of PEEP did not prevent pulmonary complications after surgery.

**Conclusion:** In patients having surgery, high intraoperative driving pressure and a change in the level of PEEP that results in an increase in driving pressure are associated with more postoperative pulmonary complications.

## OP.27

### Management of anesthesia during laparoscopic cholecystectomy in patients with chronic spinal cord injury: three case reports and literature review.

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#### Abstract

**Introduction:** In the recent years, laparoscopic cholecystectomy has become common clinical practice and it is performed and advocated for quadriplegia patients and presenting new anesthetic challenges. Patients benefit after laparoscopic cholecystectomy include shorter surgical time, reduction in postoperative pain, shorter hospital stay, quicker return to normal activities, reduction in overall medical cost and better cosmetic result. The intraoperative requirements of laparoscopic surgery however can lead to serious physiological changes and complications. The major problems are related to the cardiopulmonary effects of pneumoperitoneum, systemic carbon dioxide absorption, extraperitoneal gas insufflation, venous gas embolism and unintentional injuries to intraabdominal structures. The circulatory flow reduces in the renal, hepatic, and intestinal district. Respiratory effects include reduced static compliance, increased airway pressures and ventilation/perfusion alterations. Carbon dioxide absorption causes circulatory effects (tachycardia, vasoconstriction) and CNS depression. The choice of anesthetic technique for laparoscopic cholecystectomy is limited most frequently to general anesthesia. Controlled ventilation avoids hypercarbia, and an anesthetic technique incorporating antiemetics and nonsteroidal anti-inflammatory agents has reduced postoperative nausea and vomiting. However, in the present era of cost containment, older and sicker patients may present for this procedure on the day of surgery without adequate preoperative evaluation. Anesthesiologists should be prepared to recommend conversion to an open procedure if hemodynamic, oxygenation, or ventilation difficulties occur during the procedure. Patients with quadriplegia undergoing to laparoscopy cholecystectomy may have a lot of number of complications, especially in perioperative period due to abnormal responses to surgical stressors. Such complications include autonomic dysreflexia,

cardiac ischemia, and respiratory compromise that increased morbidity and mortality. We will describe 3 men with mean age  $59 \pm 2$  years with chronic spinal cord injury that performed laparoscopic cholecystectomy. As premedication used only nifedipine. Induction was realized with low doses fentanyl, propofol and vecuronium. Anesthesia can be maintained with either a volatile anesthetic agent or via total intravenous anesthesia to reduce the likelihood of autonomic dysreflexia and prevent spasms. Intermittent positive pressure ventilation should be used for longer procedures. Opiates should be used sparingly if at all, because of their effect on postoperative ventilation, positioning and thermoregulation. Special attention must be paid to pressure areas and limbs should be secured and padded to prevent injury from spasms. Urinary catheters should be clearly visible and accessible. Warming should begin in the operation room and continue into the recovery period. Before extubation, patients should be fully antagonized if neuromuscular blockers were used, and the tidal volume and ventilatory frequency should be adequate. Patients may require a period of NIV because the surgery was prolonged almost 100-120 minutes. Pressure areas should be checked in recovery and core temperature should be maintained in normal values. Routine monitoring including regular blood pressure measurement should be continued until patients have been fully recovered. One patient was transferred in intensive care unit the others went in surgical wards after total recovery in awake rooms. The patients had long hospital stay after surgery about  $5 \pm 2$  days due to autonomic dysreflexia

## OP.28

### General anesthesia combined with epidural anesthesia in major open abdominal surgery

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#### Abstract

**Introductions:** Despite the use and advances of the laparoscopic technique, open surgery remains indicated in major abdominal surgery. Major abdominal surgery includes separate or combined surgery of the stomach, pancreas, liver, colon, and esophagus. Open surgery is associated with a wide incision and major tissue trauma for the patient, requiring good management of pain and perioperative complications, difficulty in early

activation. Options for anesthetic management are general anesthesia, alone or combined with epidural anesthesia. Epidural anesthesia is performed by passing a catheter into the epidural space at T<sub>10</sub>-T<sub>11</sub> and applying intermittent doses of analgesics to the catheter.

**Materials and methods:** This presentation is based on the literature, reviews and our experience in the application of combined and single general anesthesia in major abdominal surgery. In the comparative study, two groups of 30 patients aged 35±15 years were taken; M/F ratio 1:1; BMI<30; one group anesthetized with combined anesthesia and the other only general anesthesia.

In both groups, were studied: the need for opiates, for blood administration, for anesthetic gases in percentage (sevoflurane), intensity of postoperative pain, psychomotor activity 2-4 hours after the intervention, average days of stay in resuscitation and average days of hospital stay.

**Results:**

- General Anesthesia group: opiate needs are 155% more than in combined anesthesia group.
  - General Anesthesia group: perioperative blood needs in 25 patients, on average 2.8 fl per patient.
  - Combined anesthesia group: blood needs in the perioperative period 20 patients, on average 1.7 fl per patient.
  - General Anesthesia group: the needs for sevoflurane 2.5% - 3.5%, in combined anesthesia group, the needs are 1-1.5% during the intervention.
  - General Anesthesia group: days of stay in the re 2.7 days, hospital stay 8.8 days.
  - Combined anesthesia group: average days of stay in re 1.2 days, hospital stay 6.7 days.
- In the Combined Anesthesia group: excellent postoperative pain control, pain point scale from 1-10; 0-1 points, good psychomotor activity before 2 hours.

In the General Anesthesia group: difficult pain control, scale of points from 1-10; 3-7 points, psychomotor activity after 4 hours good.

**Discussion:** Both groups of patients were operated on by the same surgical team, so the surgical skills of the team were not evaluated in comparison to another team. The same pathology was not evaluated due to the limited number of cases. Epidural anesthesia requires a doctor with very good expertise in its implementation and management. During combined anesthesia, there is a need for vasopressor support due to vasoplegia.

**Conclusion:** Combined anesthesia is the anesthesia of choice in major open abdominal surgery due to the lower needs for opiates, anesthetic gases, blood administration, and day stay in the hospital.

In this case, excellent control of perioperative pain and good early psychomotor activity in the postoperative period is achieved compared to general anesthesia alone.

**Key words:** Combined anesthesia, general anesthesia, sevoflurane, blood, pain, reanimation

**OP.29**

**Anaesthesia challenges in sleeve resection in Thoracic surgery**

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*Abstract*

**Introduction.** Sleeve resection and especially tracheal reconstruction require experienced team and good skills. Most of the cases are non-small cell lung tumour.

Sleeve lobectomy is performed when is possible to save pulmonary tissue .

**Methods.** During 2018-2019 have been done 5 patients, and all are males non-small cell pulmonary carcinoma. Mean age 63 +- 6 year. Four were sleeve lobectomy(one was poststenotic abscess and post chemotherapy) and one of them was right pneumonectomy with tracheal reconstruction.

Postero-lateral thoracotomy was used for all patients and "compartment lymphadenectomy" We use double lumen tubes(one lung ventilation), total intravenous anesthesia (TIVA) propofol + remifentanyl All patients are extubated in OR. Monitoring includes: Respiratory rate, capnometry, invasive blood pressure, ECG, SpO<sub>2</sub>, temperature, urine output.

**Results.** All are discharged at 8 th postoperative day (except the patient with pulmonary abscess 15days).

We have documented all the anastomosis after four weeks under the flexible bronchoscopy.

**Discussion.** Most challenged moments are: correct position of the tube under flexible bronchoscopy, apnoeic hyperoxygenation, lung protection ventilation, ventilation from the surgical field and emergency extubation.

**Key words.** Sleeve resection, carinal reconstruction, TIVA, apnoeic hyperoxygenation.

### OP.30

#### The prediction of the incidence of hypotension during spinal anaesthesia by perfusion index derived from a pulse oximeter

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#### Abstract

**Background:** Hypotension during spinal anaesthesia is a result of decreased vascular resistance due to sympathetic blockade and decreased cardiac output due to blood pooling in blocked areas of the body. Change in baseline peripheral vascular tone may affect the degree of such hypotension.

The perfusion index (PI) derived from a pulse oximeter has been used for assessing peripheral perfusion dynamics due to changes in peripheral vascular tone.

The aim of this study was to examine whether baseline PI could predict the incidence of spinal anaesthesia-induced hypotension.

**Methods:** The patients that were enrolled in this prospective study received spinal anaesthesia with 15 mg hyperbaric bupivacaine .

The correlation between baseline PI and the degree of hypotension during spinal anaesthesia and also the predictability of spinal anaesthesia-induced hypotension by PI were investigated.

**Results:** Baseline PI correlated with the degree of decreases in systolic and mean arterial pressure). The cut-off PI value of 3.5 identified patients at risk for spinal anaesthesia-induced hypotension .

The change of PI in patients with baseline  $PI \leq 3.5$  was not significant during the observational period, while PI in patients with baseline  $PI > 3.5$  demonstrated marked decreases after spinal injection.

**Conclusions:** We demonstrated that higher baseline PI was associated with profound hypotension and that baseline PI could predict the incidence of spinal anaesthesia induced hypotension .

**Keywords:** anaesthesia, ; anaesthetic techniques, subarachnoid; complications, hypotension; equipment, pulse oximeters; measurement techniques, plethysmography

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### OP.31

#### Fever as a risk factor in ICU patients

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#### Abstract

Medical and surgical patients represent two different populations of critically ill patients with differences in demographic characteristics, leading primary intensive care diagnoses upon admission, and mortality.

In the first 48 hours of the postoperative period a fever is nearly always non-infectious in origin. Tissue damage alone results in the disruption of phospholipids from the cell membrane, leading to a cascade of prostaglandins and cytokines which eventually lead to a body temperature elevation. However, fever that persists beyond 96 hours generally warrants further attention.

The primed inflammation by surgical insults like trauma is initially beneficial as it helps to eradicate tissue debris. However, if not balanced by homeostatic anti-inflammatory mechanisms, it is detrimental to the integrity and repair of tissue in surgical patients, and might even elicit an overt depressed immune response due to extensive death of immune effector cells.

Infection is one of the most common causes for morbidity and mortality in surgical patients with prolonged hospital length of stay and increased medical care costs, reduced functional independence and impaired long-term outcome. Postoperative infections include device

related complications such as: hospital or ventilator-associated pneumonia, catheter-related urinary tract infection, catheter-related bloodstream infection, and surgical site infections. Other, rarer infections can include sinusitis, odontogenic infections, occult abdominal abscesses, or infectious sources that were incubating prior to the surgery but not identified by the surgical team. Non-infectious etiologies, such as deep venous thrombosis (DVT) or critically ill patients with neurological disease must also be considered.

The pathophysiology of surgical infection is a complex process, conducted by the primed and pretriggered host immune-inflammatory response to pathogen, predisposed by genetic factors and tailored by the location, the load and the virulence of the invading microbes in surgical patients. Furthermore, increasing age, underlying illnesses such as diabetes mellitus, type of invasive procedure, prolonged duration of the surgical manipulation, ischemia and reperfusion, and transfusion might make the patients more susceptible to infection.

Obviously, this risk is not only connected with the environmental or endogenous sources of contamination involved during surgical procedures, but is conditioned by the general conditions of patients, characteristics of occurred intraoperative contamination, etc.

In addition, anesthetic management may influence defense mechanisms to surgical infections as well. There is growing evidence that high doses of opioids, like remifentanyl, administered during surgery might induce immunosuppression through the activation of opioid receptors expressed on leucocytes, and also increase susceptibility to infection resulting from opioid withdrawal.

In conclusion, although the presence of infection is associated with a high mortality rate in both medical and surgical ICU patients, the studies suggest that infection has a greater impact on patients admitted to the surgical ICU, indicating the importance of preventable measurements and early detection and treatment of infection in this population.

Measures to prevent and treat infection may be more effective in the surgical ICU population.

### OP.32

#### Evaluation of the observed deaths with the predicted ones by Ryan Mortality Prediction Model

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#### Abstract

**Introduction.** Many prognostic scoring models have been devised to predict mortality risk in burn patients. Ryan mortality prediction model is a system that predicts mortality by taking into account three major risk factors: age 60 years or over, the burned surface area (BSA) of at least 40%, and the presence of an inhalation injury. An increasing number of risk factors (0-3) is associated with an increased mortality rate. This formula predicts 0.3%, 3%, 33%, and approx. 90% mortality when, respectively, zero, one, two, or three risk factors are present.

This presentation aims to apply this prediction model to two cohort burn patients hospitalized in ICU and to evaluate the observed deaths with the predicted ones.

**Material and Methods.** The study retrospectively analyzes the data of all burn patients admitted to the ICU of the Service of Burns and Plastic Surgery of the UHC in Tirana, Albania from 1998 to 2008 and 2009 to 2019.

**Results.** Overall mortality from 2009 to 2019 was improved: 6.89% (116 deaths in 1684 patients) compared with 1998 to 2008 which was 10.5% (255 deaths in 2337 patients). The observed mortality, while applying the Ryan score, was 0.09%, 5.61%, 35.23%, and 81.4% when, respectively, zero, one, two, or three risk factors were present and there is statistical significance for the difference between two decades (table 1). We performed the comparison of the full model (Age, BSA, and presence of Inhalation Injury) against a null through Nominal Regression. [ $\chi^2(3) = 488.808, p < 0.001$ ]. The Goodness of Fit test was used to affirm that the data gathered to fit the distribution of the population [ $\chi^2(694) = 617.914, p = .982$ ]. The likelihood Ratios confirmed all the predictors of the model to be significant ( $p < 0.001$ ). The mortality was correctly predicted by the model 56.0% of the time and survival was correctly predicted by the model 95.7% of the time.

**Conclusion.** The data derived from this study confirm the strength of the Ryan model that mortality in the absence of all risk factors is rare but in the presence of all three risk factors, mortality is extremely high. The use of prediction models should serve as guidance for clinical decisions during the treatment of severe burns.

Table 3: Analysis of Mortality in Two centers

Number of risk factors	2006-2008				2009-2010			
	Patients (n=2837)	Deaths (n=258)	Mortality (%)	Observed	Patients (n=1895)	Deaths (n=128)	Mortality (%)	Observed
<b>NO RISK FACTOR</b>	1814	77(2)	38.36	4.36	1144	47(2)	4.16	0.96
<b>ONE RISK FACTOR</b>								
Age of patients	48	4(3)	8.33	1.78	133	2(2)	1.50	
Age of patients	180	9(5)	5.00	2.78	124	7(6)	5.64	
Presence of Infection	380	4(3)	1.05	0.41	88	4(4)	4.54	
Presence of Infection	240	14(5)	5.83	3.09	207	10(5)	4.83	1.03
<b>TWO RISK FACTORS</b>								
Age of patients	1	0(0)	0	0.00	27	0(0)	0	0.00
Age of patients	34	1(3)	2.94	1.24	34	2(2)	5.88	12.93
Age of patients	178	5(3)	2.80	1.46	135	6(4)	4.44	10.36
Age of patients	287	7(2)	2.43	1.38	176	10(6)	5.70	12.93
<b>THREE RISK FACTORS</b>								
Age of patients	16	0(0)	0	0.00	40	3(3)	7.50	16.66
Overall Mortality %			33.5				6.8	

Depending on the duration, the pain can be classified into acute or chronic (when it lasts more than 6 months).

Pain can be divided into: nociceptive, somatic, visceral, neuropathic, inflammatory. In Acute Pain, physiological signs of pain include sweating, hypertension, tachycardia, tachypnea, dilated pupils, and behaviors such as grimacing, shivering, and groaning. Acute pain is a consequence of many clinical situations such as: angina, trauma and burns, acute abdomen, disc herniation, postoperative pain, etc. Chronic Pain includes pain caused by malignant processes, by chronic bone disease, in Patients in Resuscitation. Perioperative nociceptive pain may increase the sensitivity of the peripheral and central nervous system. There are some features of pain such as: Localization of pain, Intensity of pain-proliferation or Irradiation of Pain, Pain Threshold, Pain Tolerance, Pain Psychology. Treatment of pain is in concordance of sort of pain.

**Key Words:** IL-1-ALFA, IL-1-BETA, IL-6, TNF-alfa, chemokines, Vasoactive amines, lipids, ATP, acids, pain: nociceptive, somatic, visceral, neuropathic, inflammatory.

### OP.33

#### Nutritional assessment and support during continuous renal replacement therapy

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#### Abstract

**Introduction:** Malnutrition is frequent in patients with acute kidney injury. Nutrient clearance during

renal replacement therapy (RRT) potentially contributes to this complication. Although losses of amino acid, trace elements and vitamins have been described, there is no clear guidance regarding the role of micronutrient supplementation. Among trace elements, negative balances have been shown for copper and selenium: low blood levels seem to indicate potential deficiency. Smaller size water soluble vitamins were found in the effluent, but not larger size liposoluble vitamins. Low blood values were frequently reported for thiamine, folate and vitamin C, as well as for carnitine. All amino acids were detectable in effluent fluid. Duration of RRT was associated with decreasing blood values. Hypophosphatemia is common during continuous renal replacement therapy in critically ill patients and can cause generalized muscle weakness, prolonged respiratory failure, and myocardial dysfunction.

**Summary:** Losses of several micronutrients and amino acids associated with low blood levels represent a real risk of deficiency for vitamins B1 and C, copper and selenium: they should be monitored in prolonged CRRT and supplementation of these elements is necessary

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### OP.34

#### Approach to the comatose patient

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#### Abstract

**Background:** Coma is a medical emergency and may constitute a diagnostic and therapeutic challenge for the intensivist. Objective: To review currently available data on the etiology, diagnosis, and outcome of coma. To propose an evidence-based approach for the clinical management of the comatose patient. Data Source: Search of Medline and Cochrane databases; manual review of bibliographies from selected articles and monographs. Data Synthesis and Conclusions: Coma and

other states of impaired consciousness are signs of extensive dysfunction or injury involving the brainstem, diencephalon, or cerebral cortex and are associated with a substantial risk of death and disability. Management of impaired consciousness includes prompt stabilization of vital physiologic functions to prevent secondary neurologic injury, etiological diagnosis, and the institution of brain directed therapeutic or preventive measures.

Neurologic prognosis is determined by the underlying etiology and may be predicted by the combination of clinical signs and electrophysiological tests. (Crit Care Med 2006; 34:31–41)

**Key Words:** coma; vegetative state; hypoxic-ischemic encephalopathy; traumatic brain injury; neurologic diagnosis; outcome prediction

### OP.35

#### The future of sepsis treatment: debates and controversies

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#### Abstract

**Introduction:** Sepsis presents a challenge in nowadays in daily practice of every Intensive care therapy unit. This syndrome is a life threatening organ dysfunction due to dysregulation of host response of human body to infections. Sepsis and septic shock increase mortality and morbidity, and the health care costs as well. There are reported 30 million people worldwide are suffering from sepsis with 6 million deaths according to the WHO. In the United States, 1.7 million people with 250000 death and approximately one third of patients affected by sepsis are surgical patients

**Material and Methods:** In sepsis there is higher immunoglobulin consumption, extravascular leak, decreased immunoglobulin production, and preexisting immunosuppression. Vitamin C is an important oxygen radical scavenger, electron donor to generate the ascorbate radical as antioxidant, can regenerate other oxygen radical scavengers, and serves as a cofactor in the catecholamine synthesis (Dopamine, Vasopressin). 28 to 49% of patients with sepsis never have a definitive pathogen identified by culture because of empiric antibiotics prior to obtaining cultures, Misdiagnosis of a noninfectious process (alcohol withdrawal or serotonin syndrome). Microbiome demonstrate a role in morbidity and mortality if converts to pathobiome.

**Discussion:** The studies generally support use of immunoglobulins (GAM) for severe sepsis.

Administration of Vitamin C remains with controversies. The physicians in ICU must deal with issues as nutrition, hypoperfusion, and antibiotics but adding probiotics is of crucial importance.

**Conclusion:** Every institution must have its own protocol in adjuvant therapies in septic patients. Increased antimicrobial resistance remains our greatest future challenge in sepsis future treatment.

**Key words:** sepsis, antibiotics, septic shock

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### OP.36

#### Percutaneous tracheostomy and our experience

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#### Abstract

**Introductions:** Various pathologies such as bacterial pneumonitis, ARDS syndrome, interstitial pneumonia, complicated heart surgery, brain surgery, craniotrauma stroke need very long ventilation. Prolonged ventilation of patients is often accompanied by difficulty in weaning from the ventilator or failure of extubating. In this situation, the need performs a tracheostomy arises. Tracheostomy can be performed in two ways, percutaneous and surgical. The number of percutaneous tracheostomies has been increased. In our clinic we have long and successful experience with percutaneous tracheostomies.

**Materials and method:** This presentation is based on our experience on percutaneous tracheostomy and comparative studies of percutaneous and surgical tracheostomy regarding complications. Our clinic has performed over 100 percutaneous tracheostomy procedures from 2018 to 2022, while personal experience from 2011 to 2022 is over 250 patients. During and after intervention, no significant complication such as damage to the trachea, pneumomediastinum, tracheoesophageal fistula, significant hemorrhage, cardiac arrest or death were encountered. Only in 2 cases we had minor hemorrhages without the need for blood administration in patient undergoing hemodialysis. Failure of the procedure in a single case and it was carried out in the second moment. From many

years surgical tracheotomy has not been performed in our intensive care unit, with the exception of cases of laryngeal surgery, where the surgical procedure is performed. The percutaneous tracheostomy procedure was performed with special sets and under the guidance of the fibro bronchoscope.

**Discussion:** The procedure requires knowledge and a good training of the staff, the ability to use the bronchoscope, the presence of a surgeon in the hospital. This presentation does not include the experience and performance of other clinics that perform percutaneous tracheostomy in our country.

**Conclusion:** Percutaneous tracheostomy is a safe procedure with fewer complications than the surgical one. It is less invasive and indicated for the patients in intensive therapy.

**Keywords:** Percutaneous tracheostomy, ICU, surgical tracheostomy, complications, patients.

### OP.37

#### **oXiris-Prizmaflex Use in Septic Shock**

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#### **Abstract**

**Background:** Sepsis is a dysregulated host response to an infection and results in organ dysfunction and death. Extracorporeal blood purification techniques aim to improve the prognosis of these patients by modifying unbalanced immune responses. This study reports our experience with the use of the oXiris® membrane for the septic fellow patients requiring continuous renal therapy (CRRT).

**Summary:** 31 patients were diagnosed with sepsis and underwent CRRT with the membrane oXiris® across 2014 and 2019. We compared observed versus predicted in-hospital deaths from the Simplified Acute Physiology Score II (SAPS II). The change in the evaluation results was analyzed sequential evidence of organs (Sequential Organ Failure Assessment (SOFA)) and main clinical and biological parameters over time. Hospital death was less than was predicted for patients with a more severe condition (60 vs. 91% for quartile [74–87] SAPS II and 70 vs. 98% for quartile [87–163] SAPS II,  $p < 0.02$ ). There was no significant

improvement in the results SOFA's from 0hr to 48hr. A relative decrease of 88% was observed in the infusion of norepinephrine (est at 0 h it was 1.69 [0.52–2.45]  $\mu\text{g}/\text{kg}/\text{min}$ ; at 48 h it was 0.20 [0.09–1.14]  $\mu\text{g}/\text{kg}/\text{min}$ ,  $p = 0.002$ ). Lactatemia and pH improved markedly over time. Patients with intra-abdominal sepsis, also those with Gram-negative bacilli (GNB) infections were seen to consume more of therapy.

**Key messages:** CRRT with oXiris® hemo-filter resulted in longer survival than predicted by a strict score (SAPS II) for more severely ill patients. Hemodynamic status and lactatemia appear that they improved, especially in intra-abdominal sepsis and GNB infections.

### OP.38

#### **Thrombolytics in the treatment of pulmonary thromboembolism. Case report**

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#### **Abstract**

**Introduction:** Pulmonary thromboembolism is the third most common cause of cardiovascular death after myocardial infarction and cerebrovascular diseases. The most important risk factors for thromboembolic events include: recent immobilization, myocardial infarction, cerebrovascular stroke, surgical interventions, trauma. Other risk factors are previous DVT, advanced age, long air travel, malignancy, thrombophilia, use of oral contraceptives, pregnancy, obesity, etc. It occurs when deep vein thrombi become attached and embolize in the pulmonary circulation.

**Case presentation:** We present a case of a 57-year-old female patient who has already been in the ICU due to an injury in a traffic accident with the following diagnoses: Ruptura diaphragmae. Laceratio lienis. Pneumothorax partialis I.sin; Fractura costae No III I.sin. St post Op. Splenectomy; Sutura diaphragmae. After the improvement of the general condition, the patient was discharged to the Department for digestive surgery, from where she was released for home treatment after 7 days. After a few hours, the

patient comes to the Emergency Center of OB Kavadarci with symptoms of suffocation, shortness of breath, chest pain, low saturation (33%) and tachycardia. She was immediately intubated and, on suspicion of BTE, appropriate therapy was prescribed and referred to KARIL. CT angiography with pulmonary thromboembolism protocol was performed, in addition to BTE of central type with PAOI of about 75%. Thrombolytic therapy was prescribed - alteplase, and then continuous low molecular weight heparin. After 3 weeks, the patient in an improved general condition was discharged to the Department for thoracic surgery for further treatment.

**Conclusion:** Early recognition and treatment in emergency centers are crucial for a positive outcome in patients with BTE.

### OP.39

#### Is 3-Dimensional echocardiography essential for intraoperative assessment of mitral valvulopathy?

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#### Abstract

Since its introduction, 3-dimensional (3D) transesophageal echocardiography (TEE) has become widely adopted in operating rooms and cardiac catheterization laboratories worldwide. 3D TEE has been proven to be superior to 2DTEE in the assessment of both mitral valve anatomy and mitral regurgitation, promoting its use in the operating room: 3D TEE not only allows better identification of a single prolapsed scallop but also helps identify the dominant lesion. Accurate preoperative assessment of the mitral valve is critical in the surgical management of patients. This information determines whether the patient should undergo valve repair or replacement, which has implications in terms of timing of surgery and long-term morbidity and mortality. Echocardiography improves lesion localization and quantification; it can help in understanding the degenerative mechanisms and in the identification of mechanisms of valve impairment with an implication in surgical triage too. Moreover 3D echocardiography improves quantification of severity disease and it can change the operation performed according to the surgeon experience. The catheter-based treatments is increasing worldwide and the 3D TEE should be mandatory

for these hybrid interventions because they improve en face visualization of the valve and the position of the intracardiac catheters. Whether a patient undergoes valve replacement or repair, 3D TEE plays an important role in the postoperative assessment: this always includes assessment of residual mitral regurgitation, mitral stenosis, and systolic anterior motion of the mitral valve.

### OP.40

#### Postoperative analgesia after cardiac surgery

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#### Abstract

Pain activates the autonomic nervous system, increases circulating catecholamines and stress hormones causing vasoconstriction, alter tissue perfusion, and reduce tissue oxygenation. In addition, pain induce metabolic disorders, alters glycemic control, increases catabolic status, causes hypercoagulability and immune system dysfunction. After cardiac surgery, 30-75% of patients report moderate to severe acute pain. The worst pain is encountered during coughing and the incision site represents the most painful area. Adequate pain control is one of the main strategies of postoperative rehabilitation and reduction of morbidity and mortality. Multimodal analgesia, which combines pharmacological and non-pharmacological techniques, constitutes one of the most efficient strategies in the adequate treatment of pain at the moment. Certainly, one of the most efficient analgesic techniques is the use of locoregional analgesia and non-steroidal anti-inflammatory drugs. Among the main techniques used are epidural analgesia, paravertebral block, erector spinae muscle block, serratus block and parasternal block which have shown their clinical efficacy. The use of local anesthetics to realize these blocks, in addition to the classical effect of the nociceptive block, enables the reduction of the inflammatory syndrome and enables the reduction of postoperative delirium. The use of non-steroidal anti-inflammatories requires caution due to their side effects, especially in the elderly and patients with moderate renal insufficiency. Adequate analgesia after heart surgery is an indisputable standard of quality service to patients in these hospital structures.

#### OP.41

### Epidural in cardiac anesthesia as a sole technique and combined: Review and our experience, 21 cases as a sole technique and 78 cases combined

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**Background:** Epidural anesthesia has been used widely as a combination to general anesthesia in cardiac surgery since early seventies. However its use as a sole technique in cardiac surgery dates long after. One of the first big studies was achieved by Karagoz et al who performed a series of 137 patients with epidural anesthesia demonstrating its beneficial effects when used in selected patients (1). The addition of this technique to general anesthesia may have beneficial effects on clinical outcome (2). Several clinical trials and experiments have shown that there may be significant benefits using epidural anesthesia in cardiac surgery. Somehow neuroaxial blockade manages to attenuate the response to surgical stress and improve perioperative analgesia (3). After the introduction of off-pump technique another milestone in cardiac surgery was the use of high thoracic epidural anesthesia which made it possible to have more beneficial results in long-term management of postoperative pain in cardiac surgery. It made it possible to avoid the drawbacks of mechanical ventilation and general anesthesia in selected patients (4). Of course several studies have shown the high satisfaction rate of pain control in patients operated under high thoracic epidural anesthesia (5). Also the fact that on-pump surgery is done in normothermic temperatures, appears to give a more physiological approach to perioperative management of the patients (6).

**Methods:** Between August 2014 and September 2018, after explaining and taking the permission from the patients, high thoracic epidural anesthesia was applied to 21 patients as a sole anesthetic technique, 8 male and 4 female. The catheter was inserted 24 hours prior to surgery at T3-T4 level in the first 8 cases. In the late 4 cases the catheter was inserted 1 hour before the surgery. Sensory block was tested with 2 ml of lidocaine 2%. Epidural anesthesia was chosen because the patients had relative contraindications to general anesthesia and mechanical ventilation. Their age varied from 52 to 81 years old. The most important and common

characteristic of these patients was the poor pulmonary function test. Seven of them had mixed dysventilatory syndrome with no reversibility to any treatment. FEV1 ranged from 49-53%.

Anesthesia was obtained by infusion of bupivacaine 0.15mg/cm and sulfentanyl 100  $\mu$ g initial dose and then continuous infusion of bupivacaine from epidural catheter with a dose of 0.06mg/cm/h.

**Results:** Five patients had valve replacement surgery and seven CABG. One patient did off-pump CABG and the other six on-pump CABG. Three patients out of 21 had to go on pump twice due to hemorrhage. Two of them were put on pump immediately, intraoperatively, after the first time and the third one was re-operated 4 hours later due to blood loss. The patients were under epidural anesthesia and did not need to be intubated. Patients were followed up thirty days after the operation. No mortality was observed 3 months postoperatively. Life threatening arrhythmia was seen in only one patient who was intubated during the perioperative period. He had on-pump 3-vessel CABG. He had dilated cardiomyopathy with an EF of 30%. The operation was successful without any intra-operative complication. Immediately after being transferred to ICU the patient had a cardiac arrest. He was intubated urgently and cardiopulmonary assistance was given. He managed to recover despite a long stay in ICU. He was transferred to the ward 7 days after surgery and left hospital two weeks after in a very good condition. Ten patients did not need ICU assistance more than the day of the operation. They were transferred to the ward the second day and 9 of them were discharged without any complication the fifth day after the surgery. One patient left hospital at the seventh day. One patient was transferred to the ward immediately after the operation. She was mobilized 1 hour after the surgery and did not experience any complication nor feel any pain.

**Conclusion:** We can definitely say that epidural anesthesia is a very suitable technique when it comes to perioperative pain management in patients undergoing cardiac surgery. The postoperative management of these patients is easier due to the low incidence of complications and the early mobilization. Generally no life threatening arrhythmias are seen in comparison to their incidence in patients operated under general anesthesia. Studies show that there is a low probability of epidural hematoma, varying approximately 1:12 000 to 1:150 000 which is comparable to non-cardiac surgery (7). Epidural anesthesia is a very suitable technique in selected patients with contraindications to general

anesthesia and mechanical ventilation. However more studies and experience is needed to have a better view of the benefits, indications and uses of this technique in cardiac surgery.

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#### OP.42

##### Early extubation after cardiac surgery

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#### Abstract

**Objective:** operating room (or) extubation after adult cardiac surgery with cardiopulmonary bypass cPB is rare. We examined the outcome, factors and benefits of OR extubation.

**Methods:** We operated 60 patients in German Hospital Tirana, from January 2019 to September 2020, who had undergone CABG cardiac operations: 52 patients, mitral valve repair 5 patients, aortic stenosis 1 patient, Bentall procedure 1 patient, left atrial myxoma 1 patient. The patients' age was from 46-82 years old, there were 24 female patients and 36 male patients, 24

diabetic patients, 36 non-diabetic patients, in all cases we did not apply epidural anesthesia. Anesthesia was used with low doses of fentanyl in combination with propofol, sevoflurane. In all cases neostigmine was used for decurarisation. The quality and depth of anesthesia was assessed with obvious signs such as tachycardia, hypertension, sweating. Endogenous stress was also assessed by monitoring glycemia during the intervention.

As extubation criteria were assessed the patient's consciousness, respiratory mechanics, hemodynamic stability, diuresis, bleeding from drains.

**Results:** 16 patients were extubated in the OR and 44 patients were extubated 15-20 minutes after the intervention in ICU. There was no reintubation. 2 patients were transferred immediately from OR to the ward. 35 patients were transferred to the ward 3-4 hours after extubation. 23 patients were transferred to the ward the next morning. Patients left the hospital after 5-7 days.

**Conclusions:** extubation in the OR or in the early postoperative period has now become a routine in all specialized clinics. The time spent in the ICU is very low and the day spent in the ward was 5-7 days. The benefit is in the best and fastest activation of patients in the early postoperative period as well as in reduced intervention costs.

**Keywords:** OR extubation, Early extubation, Cardiac surgery, Benefits

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#### Op.43

##### Management of patient with coexisting coronary and bilateral carotid stenosis

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#### Abstract

**Introduction:** Patients who have had cardiac surgery and have high grade carotid stenosis, have

an increased likelihood for experiencing a perioperative stroke. Patients with coronary and bilateral carotid artery disease pose as difficult and high-risk for treatment. We describe the management of a patient with coexisting coronary and bilateral carotid artery stenosis undergoing elective cardiac surgery at our institution.

**Case Report:** The patient (63-year-old male) came to our hospital to perform a coronary angiography referred for cardiac surgery. The pre-anaesthetic evaluation revealed that the patient had high blood pressure, dyslipidaemia, severe carotid stenosis (90%) in his right carotid artery and mild carotid stenosis (60%) in his left carotid artery. We decided to delay the cardiac surgery and proceeded with right carotid artery stenting first. The procedure was done using a self-expandable stent and post-stent angiography revealed satisfactory results. After 1 month, we successfully performed the coronary artery bypass grafting to the three coronary arteries (CABG x3). He presented no neurological or other complications during the perioperative and postoperative period. The patient was discharged from the hospital in the 7th postoperative day in a good clinical and hemodynamic condition.

**Conclusion:** In conclusion, patients with concomitant coronary and bilateral carotid stenosis pose as a challenge for multi-disciplinary cardiac teams. First proceeding with carotid artery stenting, then secondly with coronary artery bypass grafting (CABG) proved to be the safest and most effective treatment in our case and we recommend it for future similar cases.

**Key Words:** bilateral carotid stenosis, stent, coronary artery bypass grafting (CABG)

#### OP.44

### The role of echocardiography in cardiac arrest in ICU

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#### Abstract

Point-of-care ultrasound is established as a reliable, bedside diagnostic modality for the differentiation of shock, and it is used increasingly during the management of cardiac arrest as well. Because many of the potential causes of cardiac arrest in surgical patients are well suited to sonographic diagnosis, point-of care ultrasound was added as a distinct step in the pulseless

electrical activity/asystole algorithm of the perioperative Advanced Cardiac Life Support (ACLS) guidelines in 2018.

In this focused clinical study, we describe the role of ultrasound in cardiac arrest rhythm classification, discuss its use in differentiating reversible causes of arrest, provide an overview of protocols, highlight potential pitfalls, and summarize strategies to encourage safe and effective application of ultrasound during ACLS.

Ultrasound can assist clinicians in identifying the correct rhythm and ACLS management algorithm and in differentiating true pulseless electrical activity from pseudo-pulseless electrical activity.

*Pulseless electrical activity* is described as an organized rhythm with neither a palpable pulse nor detectable cardiac contractility on ultrasound.

*Pseudopulseless electrical activity*, on the other hand, also has an organized rhythm on electrocardiogram but is distinguished by preserved organized cardiac contractility, although not enough to generate a detectable pulse. Valve motion alone (which can occur with passive flow) should not be mistaken for contractility.

Causes of cardiac arrest including: *cardiac tamponade, tension pneumothorax, myocardial ischemia, hypovolemia, acute right ventricular failure, and hypoxia*, are all well suited to diagnostic evaluation with ultrasound.

Detailed preparation is necessary: upon arrival to an arrest, plug in and power on equipment, choose a phased array probe with appropriate preset/depth/gain, and program the video clip duration to at least 10 s. The subcostal four-chamber view is the preferred starting point for cardiac imaging.

In our center, we perform the ultrasound exams for patients with significant hemodynamic instability of unclear etiology in the postanesthesia care unit and intensive care unit to identify possible interventions that may prevent further decompensation.

When transthoracic cardiac ultrasound is ineffective because of the presence of surgical drains, subcutaneous air, or other impediments, we found TEE to be much more advantageous. TEE can be performed without interrupting active resuscitation and can identify many of the same precipitating causes of an arrest as surface ultrasound.

Given that we are intimately familiar with our patients' histories and the events that precede perioperative cardiac arrests, we are already adept at developing hypotheses about underlying etiologies. Focused ultrasound offers us a powerful

tool to further refine our differential and tailor therapies for successful resuscitation

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## OP.45

### Cerebral hyperperfusion syndrome after carotid endarterectomy: Keeping the brain in mind

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#### Abstract

**Background and Purpose:** Extracranial internal carotid artery stenosis accounts for 15–20% of ischemic strokes and carotid endarterectomy (CEA) is the most frequently performed surgical intervention in stroke prevention. Neurological complications following CEA are usually ischemic in nature, due to embolization or occlusion of the carotid artery. However, in a small subset of

patients, cerebral hyperperfusion or reperfusion causes post-operative neurological dysfunction, characterized by ipsilateral headache, focal seizure activity, focal neurological deficit and ipsilateral intracerebral hemorrhage or edema. Although rare, it can lead to significant morbidity and mortality if not correctly recognized and treated

The purpose of this study is to evaluate the risk factors for this rare but important complication, clinical presentations and prognosis.

**Materials and methods:** This is a prospective study October 2020 to October 2022 we performed 305 (178 man and 127 women) carotid endarterectomy (CEA) surgeries at Service of Cardiac and Vascular Surgery at "Mother Theresa University Hospital Tirana.

All patients are diagnosed preoperatory with Carotid artery Doppler ECHO and Angio CT of supraortic vessels. All are followed postoperative with carotid artery duplex scanning within two weeks after surgery. Indications for surgery in without neurologic symptoms were ipsilateral internal carotid artery (ICA) stenoses ranging from 70% to 99% (mean, 80% +/- 7%); and one remaining patient had an ipsilateral stroke (recent 2 weeks), 3 patients had significant contralateral ICA stenosis (70%). However, 4 patients had undergone contralateral CEA within 3 months.

The patients with CHS also underwent carotid artery duplex scanning at the time of the neurologic events. Also they had CT of the head from day 1-3 after CHS.

**Results:** CHS developed 1 to 6 days (mean, 3.2 +/- 2.5 days) postoperatively in 2% of patients, whose age ranged from 64 to 83 years (mean, 69 +/- 5 years). CHS symptoms were severe headache in 87 % of patients, 34% encephalopathy; 28% focal sensorimotor deficit; 24% seizures; 12 % visual disturbances and 14% speech difficulties (aphasia, dysarthria).

Two patients had ICH and in 4 on CT was evident cerebral edema. The incomplete circulus Willis was in 17 % of patients that had CHS. 89% of patients that had CHS had arterial pressures more than 165 mmHg. In 76% of patients was evident hemodynamic instability during and after surgery. Patient with contralateral stenosis had all CHS. The patients with CHS had no mortality. There was increase in hospital and ICU stay and morbidity and invalidity.

**Conclusions:** CHS is a rare but serious complication of CEA; Ipsilateral Headache, neurological deficit, encephalopathy and seizures are main clinical presentations. Contralateral carotid artery severe stenosis hypertension; recent

ipsilateral surgery, age and preoperative hypertension are the main risk factors for hyperperfusion after surgery. Morbidity, hospital ICU length of stay is increased in all the patients with CHS.

**Key words:** Carotid endarterectomy; Cerebral hyperperfusion syndrome, Contralateral carotid stenosis; Hypertension

#### OP.46

### Myocardial protection in coronary by-pass surgery during Antegrade cold blood cardioplegia vs Crystalloid cold cardioplegia

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#### Abstract

**Introduction:** Cardiac surgery since the beginning, has a great progress in different directions One of the most important points during Cardiac surgery is myocardial protection.

Blood cardioplegia (BC) has had a profound impact, especially in coronary artery by-pass surgery. A good myocardial protection will be reflected especially on patients outcome, in heart recovery and arrhythmias after cross-clamping, and most of all in postoperative period in ICU and morbidity and mortality as well.

The aim of this study is to determine Antegrade cold blood cardioplegia (ACBC)

Vs Antegrade Cold Crystalloid Cardioplegia (ACCC), which one has advantage in by-pass surgery.

The Aim of this study was to identify the superiority of Cold Blood Cardioplegia (CBC) vs Cold Crystalloid Cardioplegia (CCC) Coronary Artery Bypass Grafting (CABG).

**Patients and method:** Sixty patients with coronary artery disease (CABGx3), 55-60 years old, males and females in the same number, with normal ejection fraction EF, 70-80 kg, with similar risk factors and co-morbidities, were retrospectively randomized in two groups of 30 patients.

Each group with different techniques of myocardial protection: group A had, ACBC and group B, ACCC.

Intraoperative and postoperative variables were used to assess primary outcomes.

Intraoperative variations of BNP, TnI and Acid Lactic before and after Cardiopulmonary Bypass (CPB) revealed that group A was superior to group

B. Intraoperative spontaneous recovery of sinus rhythm was observed in group A and the difference being statistically significant with group B. There was no necessity of using inotropic support after CPB in group A in difference with group B, in which almost all the patient had the necessity of low inotropic support after CPB for a short time.

Postoperative blood loss and blood requirements, weaning from mechanical ventilation, intensive care unit stay were measured as a secondary outcome and were seen higher in group B

**Results:** This study did find benefits and superiority of ACBC vs ACCC in Coronary Artery Disease, CPB

**Conclusion:** According to our study we found the superiority of Cold Blood Cardioplegia (CBC) vs Cold Crystalloid Cardioplegia (CCC) in Coronary Artery Bypass Grafting (CABG).

**Keywords:** Myocardial protection, Cardiac surgery, Cardioplegia, Coronary Artery Disease

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#### OP.47

### BNP, Tnl, and Lactic Acid variations, during Cardiopulmonary Bypass under Moderate Hypothermia vs Normothermia

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**Background:** In open heart surgery such as Coronary artery Bypass Grafting, valve repair or replacement, some congenital heart disease etc...., patients are connected to the Cardiopulmonary bypass (CPB) machine that pumps blood around the body while the heart is stopped. During the operation there are different methods of maintaining body temperature, but in our study we applied two of them. The first method is that blood is cooled 30-32°C (moderate hypothermia MHT) and warmed to normal body temperature once the operation has been completed and the second one is that the blood is kept around 34-35°C (normothermia NT). The main reason for “cooling body” is to protect brain, heart and organs during cardiopulmonary bypass through reducing body metabolic rate.

**Patients and methods:** There are 80 patients in the study group that will undergo in Coronary Artery bypass grafting (CABGx3), 60-65 years old, 65-80 kg, males and females in the same number, with normal ejection fraction EF, , with similar risk factors and co-morbidities. They were retrospectively randomized in two groups of 40 patients A and B.

The CPB in Group A was performed under MHT and in group A under NT.

Intraoperative and postoperative variables were used to identify primary results.

The primary clinical results intraoperative are BNP, Tnl and Lactic Acid before and after CPB, and were higher in Group A Intraoperative spontaneous recovery of sinus rhythm was present in almost all patients in group B and in few patients in group A. Arrhythmias and intraoperative electric rhythm conversion/ Defibrillation was higher in group A with difference being statistically significant with group B. Usage of inotropic support after CPB in group A is higher than group B, in which almost all the patient had no necessity of inotropic support after CPB. Duration of inotropic support, intubation time, blood loss and blood requirements, intensive care unit stay were measured as secondary clinical outcomes and were higher in group A

Also pre and post echocardiographic findings, routine blood gases, renal function were used as secondary outcome and was seen superiority in group B

**Results:** According to the primary and secondary variables, resulted that CPB in NT has superiority compare to MHT in patients that underwent CABG which results in decreased organ damage that occur during nonphysiological body perfusion.

**Keywords:** Cardiopulmonary Bypass CPB, Moderate Hypothermia MHT, Normothermia NT, Cardiac Surgery CS, Coronary artery Bypass Grafting CABG, Brain Natriuretic Peptide BNP, Troponin I, Lactic Acid LA.

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#### OP.48

### Non-cardiac surgery in patients with cardiac disease

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#### Abstract

Over 234 million major non-cardiac surgeries are performed annually worldwide with an estimated mortality rate of 0.5–1.5%. Perioperative major adverse cardiac events contribute up to one third

of these complications leading to prolonged hospital stay, increased medical cost and perioperative deaths annually. Around ten million patients who underwent noncardiac surgery experience cardiac complications within the first 30 days of the postoperative period; the complications are myocardial infarction, cardiac death, and cardiac arrest. Research has shown that perioperative outcomes depend on the patient's premorbid state, the type of surgery and the circumstances under which the surgery took place. The mortality rate increases 1.5 times in patients diagnosed with coronary artery disease, valvular heart disease, heart failure, stroke and peripheral artery disease and by 2–5 times in emergency surgery. Smilowitz et al. did a retrospective data analysis from hospital admissions for major non-cardiac surgery in the United States from 2004–2013 to evaluate the trend of perioperative major adverse cardiovascular events. In 10 million cases analysed found a 3% incidence with higher rates in vascular, thoracic and transplant surgery. Importance of risk stratification is to reduce perioperative mortality and morbidity by identifying the patient's medical risk factors, their severity and stability, establishing a clinical risk profile, recommending needed specialty consultation, further testing or optimisation and evaluating the timing of surgery and its mortality risk. Patients with coronary artery diseases undergoing non-cardiac surgery are at an increased risk for peri-operative complications such as myocardial ischaemia, MI, cardiac failure, arrhythmias, cardiac arrest and increased morbidity and mortality. These complications are much higher in patients with recent MI or unstable angina who require urgent or emergency cardiac surgery. The American College of Cardiology (ACC)/American Heart Association (AHA) practice guidelines considered the period within 6 weeks of acute MI as a period of high risk for a peri-operative cardiac event, as it is the mean healing time of the infarcted myocardium. Patients who have undergone coronary revascularisation procedure within 5 years and are asymptomatic have low perioperative risk surgery and can undergo surgery without any further evaluation. The incidence of PCI performed in preparation for high-risk noncardiac surgery is low, and these procedures are currently being performed on a highly selected high-risk patient population. In patients with significant valvular heart disease (VHD) undergoing non-cardiac surgery (NCS), perioperative adverse cardiac events are a relevant issue. As a rule, valvular intervention is recommended prior to NCS in symptomatic patients or in those who meet standard criteria for

cardiac intervention. Patients with severe aortic stenosis might be at high risk for adverse cardiovascular events at the time of non-cardiac surgery. Current guidelines recommend that elective non-cardiac surgery should be postponed for symptomatic patients with severe AS until after aortic valve replacement. In asymptomatic patients with severe AS, the recommendations vary according to the non-cardiac surgery risk categories; AVR is recommended prior to high-risk non-cardiac surgery, whereas no aortic valve intervention is recommended for patients undergoing low- or intermediate-risk surgery. The CURRENT AS Study, the most serious study for this problem, had the conclusion that mortality after elective non-cardiac surgery was substantial in patients with untreated severe AS, while no patient with prior AVR died after elective non-cardiac surgery. Symptomatic and asymptomatic severe AS might be associated with higher risk of perioperative death if untreated before elective intermediate- and high-risk non-cardiac surgery. Transcatheter aortic valve implantation (TAVI) offers a minimally invasive approach associated with a short convalescence period minimizing delay between valve replacement and noncardiac surgery.

#### **OP.49**

#### **Complex aortic surgery: multidisciplinary approach is the key for success**

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#### **Abstract**

Surgery of the aorta involving the arch is burden with high morbidity and mortality rate, because surgical procedure and extracorporeal circulation time are long and requiring circulatory arrest. Indeed, prolonged extracorporeal circulation found to be an independent risk factor for mortality and adverse events. Patient who undergoes such procedures are often in advanced age and present with co-morbidities such as renal and respiratory dysfunction, peripheral vascular disease and heart failure. With the improvement of surgical procedures, better and early diagnostics, older patients with complex anatomy are eligible to receive such procedures where age is no longer considered as a limitation. Also, more vascular and endovascular devices are available, simplifying the surgical approach, thus, allowing the physician to propose alternative solutions. Moreover, the possibility to monitor intra and

postoperative data, including adequate blood flow during extracorporeal circulation to the various body districts, improvement of haemostasis based on instrumental data are crucial to achieve optimal intra and postoperative results. All those, make the involvement of all relevant disciplines, including radiologists vascular surgeons and anesthesiologists, fundamental in the decision making to tailor best therapeutic option to each patient.

#### OP.50

##### Arterial Revascularisation: Pro and cons

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##### Abstract

**Objectives:** Coronary artery disease remain the main cause of death. Surgical treatment ( CABG) remain the best method and arterial grafts are the ideal solution for the long term success of the intervention. Although arterial revascularization intervention represent surgically technical difficulties it remain an objectif and a main solution for the surgical treatment of the coronary disease in every center. This is reflected by the big number of studies, arterial grafts and diferent techniques. This was also one of our main goal.

**Methods:** The first arterial intervention with double mamary artery is done in 10 march 2006. From that time we have performed 127 intervention with double mamary arteries. Average age of the patients is  $52.9 \pm 10$  years. 104 patients presented triple vessels disease. Average number of grafts for patients was  $3.07 \pm 0.9$ . Right mamary artery was used in situ in 98 cases, in 27 cases Y graft with the left mamary and in 2 cases the right mamary was used as a free graft. In 18 cases radial artery was used as the third graft – 16 june 2006 first “totally arterial revascularization”. In the rest of the cases vena saphena magna was used.

**Results:** Patients had a good post operative period and were discharged after  $9.6 \pm 2$  days. The follow up from three months to one year didn't present serious problems. Two deaths, one related to cerebrovascular accident and the other from acut pancreatitis.

**Conclusions:** although the risk and surgically difficulties arterial revaskularization can be a successfull procedure and should be the choise in young patients.

#### OP.51

##### Open heart surgical ablation of the left and right atrium in patients with chronic atrial fibrillation: Early results

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##### Abstract

The management of AF has two primary goals: optimizing cardiac output through rhythm or rate control, and decreasing the risk of cerebral and systemic thromboembolism with minimal increase in the risk of intra- and extracranial bleeding. The Cox-maze procedure for the restoration of normal sinus rhythm, initially developed by Dr. James Cox, underwent several iterations over the years. The main concept consists of creating a series of transmural lesions in the right and left atria that disrupt re-entrant circuits responsible for propagating the abnormal atrial fibrillation rhythm. The left atrial appendage is excluded as a component of the Maze procedure. For the first three iterations of the Cox- maze procedure, these lesions were performed using a surgical cut-and-sew approach that ensured transmural. The Cox-Maze IV is the most currently accepted iteration. Results show that superiority of either strategy over the other is minimal and inconsistent. We report our experience with the first 10 patients surgically treated for atrial fibrillation with the cut with electro coagulation and sew technique, concomitant with their cardiac pathologies including mitral, aortic and ischemic pathologies. All of them had persistent atrial fibrillation under oral anticoagulation therapy. There were 4 man and 6 women age  $56 \pm 4$  years old. There were no bleeding, no heart block, no deaths and all patients left our hospital in sinus rhythm. We have a mean follow up of 4 months. All patients were monitored with monthly elektrocardiograms and rhythm Holter registration at the first month, 7 of 10 patients still conserve sinus rhythm.

## OP.52

### The role of the special layers of the aorta in the biomechanical properties of the aortic wall in the ascending aorta

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#### Abstract

Enhanced Recovery After Surgery (ERAS) is a multimodal, multidisciplinary approach to the care of the surgical patient based on published evidence. It involves a team consisting of surgeons, anesthetists, and nurse and staff from units that care for the surgical patient. The ERAS Society promotes, develops, and implements ERAS programs, publishes updated guidelines for many operations, such as evidence-based modern care changes from overnight fasting to carbohydrate drinks 2 hours before surgery, minimally invasive approaches instead of large incisions, management of fluids to seek balance rather than large volumes of intravenous fluids, avoidance of or early removal of drains and tubes, early mobilization, and serving of drinks and food the day of the operation. Enhanced Recovery After Surgery protocols have resulted in shorter length of hospital stay and reductions in complications, while readmissions and costs are reduced. The elements of the protocol reduce the stress of the operation to retain anabolic homeostasis. Enhanced Recovery After Surgery started mainly with colorectal surgery but has been shown to improve outcomes in almost all major surgical specialties including: bariatric, breast, plastic, cardiac, colorectal, esophageal, head and neck, hepatic, gynecologic, neurosurgical, orthopedic, pancreatic, thoracic, and urologic surgery. Pain control is an integral part of Enhanced Recovery after Surgery (ERAS) protocols for colorectal surgery. A variety of nonopioid systemic medical therapies as well as regional and neuraxial techniques have been described as improving pain control while reducing opioid use. Multimodal and preemptive analgesia as part of an ERAS protocol facilitates early mobility and early return of bowel function and decreases postoperative morbidity.

## OP.53

### Our experience in the treatment of infective endocarditis

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#### Abstract

Infectious endocarditis (IE) is an uncommon, life-threatening infection of the endocardium, affecting native or prosthetic valves, cardiovascular devices and potentially any endothelium-lined structure. Despite improvements in diagnostic and therapeutic strategies, neither the incidence of IE, ranging between 1.5 and 9.6 cases per 100,000 people, nor its mortality, ranging between 15 and 25%, have decreased. The proportion of IE classically related to preexisting congenital or rheumatic heart valve disease decreased in favor of the cases related to degenerative valvulopathies, prosthetic valves, and cardiovascular implantable electronic devices. The growing importance of healthcare acquired infective endocarditis (HCA-IE) results from age-dependent morbidity and healthcare utilization. Currently, HCA-IE accounts for up to 47% of IE cases. Advanced age, cardiac implants, and comorbidity are important predispositions, and intravascular catheters or frequent vascular access are significant sources of infection. Surgery, although frequently indicated, is rejected in some cases because of prohibitive risk. The two primary objectives of surgery are total removal of infected tissues and reconstruction of cardiac morphology, including repair or replacement of the affected valve(s). Although surgical indications are based on the current well-defined guidelines further research on surgical treatment is needed to provide more comprehensive information for defining the most suitable treatment option, finding the optimal time for surgery, and reducing morbidity and mortality. Patients with previous IE are at risk of reinfection and prophylactic measures should be very strict. Reinfection is more frequent in intravenous drug abusers (especially in the year after the initial episode), in prosthetic valve endocarditis, in patients undergoing chronic dialysis and in those with multiple risk factors for IE. Patients with reinfection are at higher risk of death and need for valve replacement. We have operated 46 patients with infective endocarditis in the last 5 years at our clinic, with excellent results, low mortality and perioperative

complications. Multidisciplinary approach and team work between the surgeons, anaesthesiologists, cardiologists and infective diseases specialists is mandatory for achieving these results.

#### OP.54

##### Post infarction ventricular septal rupture repair and left ventricular remodeling after covid-19

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#### Abstract

Mechanical complications of acute myocardial infarction, such as interventricular defect, is a life-threatening event and surgery remains treatment of choice even the high perioperative mortality. The optimal time of surgery is still an argument of debate. We performed the surgery on 12-th day of myocardial infarction. The case of an 83-year-old man, with a 5-day history of chest pain was presented in cardiology intensive care unit. Transthoracic echocardiography showed a medio-apical interventricular defect of 9-10 mm, left ventricular aneurysm and poor ejection fraction. Coronary angiography demonstrated two vessel coronary disease and ventriculography confirmed ventricular septal rupture. The patient is infected with COVID19. The patient was transferred to Cardiac surgery Clinic after he was tested negative for COVID19 after he was treated several days in infections disease clinic. The surgery was performed: interventricular defect closure, aneurysmectomy and remodeling of the left ventricle with a pericardial patch and venous by-pass graft over right coronary artery. Post operative period was good. The postoperative ejection fraction achieved up to 40-45% and there was no residual shunt. The patient left the hospital in good condition.

**Conclusion:** Surgery remains treatment of choice for ventricular septal rupture but the judgment of intervention time should be done by the team carefully case after case.

**Key words:** Postinfarction, ventricular septum rupture, ventricular aneurysm, Myocardial infarction

#### OP.55

##### Endovascular fenestration in aortic dissections complicated by malperfusion

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**Introduction:** Acute aortic dissection remains a life-threatening pathology and may be complicated with malperfusion of visceral, renal or limb arteries. Fenestration of the dissection flap is a challenging and crucial technique to relieve malperfusion and to improve short and long-term outcomes. We report a case of Type B acute aortic dissection (TBAAD) complicated with malperfusion which was treated with endovascular fenestration at our center and review the pertinent literature.

**Materials and Methods:** In 2018 a patient with TBAAD was referred to "American Hospital 3" Tirana/Albania. He had abdominal pain, was anuric (creatinine 2.7 mg/dl), had elevated transaminases (x20-30 folds) and was hemodynamically unstable. Computed tomography angiogram (CT-A) revealed an enlarged and dissected descending aorta with entry site right after left subclavian artery, an almost obliterated true lumen by false lumen and a small re-entry at renal level. Visceral/renal and limb perfusion was severely compromised. Patient suffered cardiac arrest due to circulatory collapse and underwent emergent endovascular fenestration under resuscitation. A large fenestration was created at infra-renal level. Hemodynamics improved immediately and subsequent thoracic endovascular aortic repair (TEVAR) and stenting of coeliac truncus were performed. He was extubated during following 24 hours and had a prolonged postoperative course complicated by gastrointestinal hemorrhage and acute renal failure treated with hemodialysis. He was discharged 2 weeks after the procedure and 2 weeks later hemodialysis was discontinued. He remains asymptomatic to this day and shows satisfying aortic remodeling.

**Discussion:** Regardless of type, acute aortic dissection is associated with considerable mortality and morbidity. Occasionally, patients require multidisciplinary approach and complex repair procedures. Meticulous evaluation of extent of aortic pathology is crucial for proper treatment planning. Rupture and malperfusion syndrome are the main causes of adverse outcomes. While the main focus is on dealing with the entry site, malperfusion derives from distal extent of the flap and often remains undertreated. Fenestration aims to create a large re-entry and a common

lumen to alleviate malperfusion. Whether surgical or endovascular, several studies evoke the importance of fenestration and the ameliorative impact on outcomes [1-2-3]. In addition, creating a large re-entry may assist circulation by increasing venous return and be life-saving in acute conditions similar as in our case. Although the relationship between malperfusion syndrome and morbidity/mortality is well documented, the great bulk of literature regarding fenestration is published only as case reports or limited series. Therefore, any report carries high importance to further understand the clinical presentation of this pathology and design the treatment.

**Conclusions:** Malperfusion syndrome is held responsible for a significant amount of morbidity and mortality in acute aortic dissections. Endovascular fenestration of the flap is to be considered in selected complicated TBAAD cases while staged approach (fenestration, followed by open surgical repair) may ameliorate outcomes in acute Type A aortic dissection complicated with malperfusion.

**Keywords:** aortic dissection, fenestration, endovascular repair

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#### OP.56

##### A case of papillary fibroelastoma attached to trabeculae in the left ventricle

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#### Abstract

**Introduction:** Papillary fibroelastomas are solitary small tumors resembling vegetations. Cardiac papillary fibroelastoma (CPF) is a rare and benign primary cardiac neoplasm of unknown prevalence. Although they are histologically benign and usually asymptomatic, CPFs can lead to serious and life-threatening complications like myocardial

infarction, stroke, pulmonary embolus, cardiac arrest etc. Because they can cause devastating complications, papillary fibroelastomas should be removed when diagnosed. A 63-year-old female was referred to our cardiac surgery department for removing cardiac mass of the left ventricle.

Transesophageal echocardiography revealed a mobile mass with an area of about 2.1 cm<sup>2</sup> and dimensions 1.8 x 1.5 cm in the left ventricular cavity, with visible insertion into the anterior septum at the medio-apical level, with a short peduncle. The mass was successfully removed without any postoperative complications and was identified as a cardiac papillary fibroelastoma in the LV-CPF.

**Conclusion:** General consensus is that symptomatic patients should be referred for surgical excision of the tumor. Asymptomatic patients with large (>1 cm) mobile masses especially left sided, as in our case, should also be considered candidates for surgical excision due to increased risk of cardiovascular complications from embolization and sudden cardiac death. Left ventricular papillary fibroelastomas are benign, but carry a high risk for embolic complications. Once CPF is diagnosed in the left ventricle without interfering ventricle's ejection tract or mitral valve functionality, early surgical referral is recommend. Our case highlights atypical presentation of papillary fibroelastoma without valvular involvement. The transmitral approach through left atriotomy do not impair left ventricular function or mitral valve competency. Long-term prognosis of fibroelastoma resection is excellent. The authors present a case of CPF attached to medio-apical anterior left ventricular septum, which was surgically successfully removed.

**Keywords:** Heart neoplasms, Fibroelastoma, Cardiac Surgery.

#### OP.57

##### Outcomes of open repair of symptomatic and ruptured abdominal aortic aneurysms: A comparative study

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#### Abstract

**Background and Purpose:** Current outcomes with elective open repair are excellent, with perioperative mortality rates between 1% and 7% depending on center volume and surgeon experience. Despite advances in operative repair, ruptured abdominal aortic aneurysm (rAAA) remains associated with high mortality and morbidity rates. The purpose of this study is to compare the outcomes of open repair between patients with symptomatic AAA and patients with ruptured AAA and to highlight the importance of early diagnosis and treatment of AAA.

**Materials and methods:** This is a descriptive cross-sectional study. The data of this study are secondary, including patients hospitalized in Service of Vascular Surgery at UHC "Mother Theresa", during the period January 2019 - December 2021. The study included 114 consecutive patients, among which 79 patients were diagnosed with AAA and 35 patients presented in the emergency department diagnosed with rAAA. All patients had done previously an abdominal ultrasound and/or Angio-CT of the abdominal aorta and inferior extremities.

**Results:** There is a significant relation between the clinical presentation of patients (rAAA vs AAA) and the median length of hospital stay ( $p=0.0005$ ). Patients with rAAA who underwent surgical intervention within the first 60 minutes from the time of presenting to the emergency room had 0 case fatalities ( $p=0.0317$ ). Patients with rAAA received more units of blood transfusion and its products during the intervention and post-operative recovery. Intra-hospital mortality among patients with AAA was around 1.7% (post-operative), while among patients with rAAA it was approximately 56.7%, of which 52.9% pre-operatively, 5.9% intra-operatively, and 41.2% post-operatively. Predictive factors of mortality were the diameter of the aneurysm ( $p=0.0553$ ), the level of anaemia ( $p=0.0199$ ), and the time from the moment of presentation to the ER to the moment of incision in the operating room ( $p=0.0317$ ). The analysis of treatment costs shows that ruptured aneurysms generally have higher costs in ICU and the operating room.

**Conclusions:** The outcomes of symptomatic AAA patients that undergo open surgical repair are very favorable, with a success rate of 98.3%. The hospital course is associated with more complications, higher mortality, and higher treatment costs for patients with RAAA.

**Keywords:** Symptomatic and ruptured abdominal aortic aneurysm, open repair.

#### OP.58

### Neurovascular Tumors, a case of paraganglioma of the hypoglossal nerve

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**Case Report:** Paraganglioma is a rare neuroendocrine tumor that originates in neural crest. There are a few instances mentioned of paraganglioma of the hypoglossal nerve even in worldwide scientific literatures. Paraganglioma of the hypoglossal nerve near the arteria carotis cannot be determined beforehand without a surgical operation. It is a tumor mass of the neck visually indistinguishable from other commoner body tumors, such as carotis or vagus. Full recovery without functional defects of any kind can be possible through surgery of nerve preservation. Although, in some examples the elimination of cranial nerve XII is a necessity.

**Discussion:** Our medical case has similar symptoms described in scientific literatures. Images taken with contrastive AngioScanner and angiography of ACI, ACC and vena jugularis interna reveal a hypervascular mass in carotid bifurcation. As in previous reported cases, the source of paraganglioma was identified through histological and intraoperative methods. Nevertheless, our example is non-identical because the tumor was located near hypoglossal nerve. The tumor was later removed. The patient had no difficulties in speech articulation, only in swallowing. After 5 days of tumor removal, the condition began improving. After 3 months, the situation went back to normality.

**Conclusions:** Paraganglioma is a rare neuroendocrine tumor that originates in neural crest. It is a tumor mass of the neck visually indistinguishable from other commoner body tumors, such as carotis or vagus. Full recovery without functional defects of any kind can be possible through surgery of nerve preservation. Although, in some examples the elimination of cranial nerve XII is a necessity.

**Key words:** Paraganglioma of hypoglossal nerve, difficulties in swallowing, contrastive AngioScanner

### OP.59

#### Carotid and coronary artery disease: Prevalence and correlations in practice and recommendations of the newest ESVS guidelines

Gentian Caco

*Vascular surgeon*

Both carotid and coronary disease affect the same population and are causes of important morbidity, disability and mortality. Screening is therefore widely used. While treatment indications for each disease are well defined, treatment of combined disease was controversial till lately. The less invasive coronary stenting is being performed more often in practice and was thought get a place in combined disease, but this seem yet not the case.

I will present a study of carotid disease prevalence on a cohort of patients scheduled for elective CABG surgery, the correlations with risk factors and characteristics of coronary disease. In this study 15% of patients had over 70% carotid stenosis or occlusion and this was not correlated to age, risk factors for atherosclerosis or severity of coronary disease. The risk for perioperative stroke during CABG was higher in recently symptomatic severe carotid stenosis patients, but the overall impact of carotid disease on stroke/death risk for CABG was low.

Recommendations of the new Clinical Practice Guideline Document of the European Society of Vascular Surgery (ESVS) on combined carotid and coronary disease will be presented in the second part of the presentation.

### OP.60

#### Management of inferior vena cava tumor thrombus in renal cell carcinoma

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#### Abstract

**Objectives:** The diagnosis of renal cell carcinoma (RCC) is accompanied by intravascular tumor thrombus in up to 10% of cases, of which nearly one-third of patients also have concurrent metastatic disease. Surgical resection in the form of radical nephrectomy and caval thrombectomy represents the only option to obtain local control of the disease and is associated with durable oncologic control in approximately half of these patients. Renal cell carcinoma with tumor thrombus in the inferior

vena cava (IVC) poses a challenge to the surgeon due to the potential for massive hemorrhage and tumor thromboemboli. We are presenting some data regarding our experience in surgical treatment of such patients.

**Materials and methods:** We reviewed the records for all patients with renal cell carcinoma (n=121) with tumor thrombus extending into the IVC (n=15) who underwent surgical intervention at our institution between February 2016 and November 2021. Tumors were classified preoperatively according to the cephalad extension of thrombus. The extent of the tumor thrombus was renal in 4 (Level I), infrahepatic in 7 (Level II); retrohepatic in 3 (Level II-III) patients, one patient with level IV thrombus (right intratrial), 8 right kidney and 7 left kidney tumors.

Patients with RCC underwent radical nephrectomy and removal of thrombus with (n=3) or without (n=12) IVC partial resection. IVC crossclamping was performed in 6 patients. IVC crossclamping and the Pringle maneuver were performed in 2 patients with level III-IV tumor thrombi.

**Results:** No patient died intraoperatively or in the immediate postoperative period. IVC crossclamping time was 14 minutes. Intraoperative blood loss range was 200-1300 ml, with a mean of transfusions being 0.96 blood units per operation. All venous thrombus were metastatic. Three patients died due to metastases and 1 patient was lost to follow-up. Overall survival after 12 months of surgical treatment was 73.3%.

**Conclusions:** An aggressive surgical approach is the only hope for curing patients having RCC with a tumor thrombus in the IVC. The extent of dissection is predicated on the extent and level of tumor thrombus.

### OP.61

#### A rare case of right upper arm compartment syndrom in a hemodialysis patient with ruptured pseudoaneurysm of brachio- basilic av fistula

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#### Abstract

**Background:** Forearm compartment syndrome is a devastating upper extremity condition where the osseofascial compartment pressure rises to a level that decreases perfusion to the hand and forearm and may lead to irreversible muscle and neurovascular damage. The purpose of this article

is to document evidence that injury of a arteriovenous fistula can cause compartment syndrome of the ipsilateral arm and risk of limb loss.

**Case report:** A 62 year old man patient experienced pain, tense edema, numbness of the hand, hematoma of the right arm after cannulation of the right brachio-basilic fistula and a subsequent hemodialysis session. Signs and symptoms were present for approximately 24 hours before presenting in the emergency department. The diagnosis was made clinically and confirmed with angi-CT of the right arm. We performed a proximal and distal ligation of the basilic vein and its extirpation after clamping of the subclavian artery. On the 5<sup>th</sup> postoperative day the patient was discharged in good health. There was no vascular or neurological deficit of the hand or forearm within the mean follow-up period of 18 months.

**Conclusion:** Forearm compartment syndrome following vascular access cannulation is rarely reported in hemodialysis patients. It is a surgical emergency that requires prompt diagnosis and intervention. Doctors and nurses should be aware and suspect this diagnosis if any signs and symptoms of forearm compartment syndrome are present.

**Key Words:** compartment syndrome, vascular access, limb loss.

## OP.62

### Emergency Management of life-threatening ruptured femoral pseudoaneurysms following Aorto-Femoral bypass: Case report

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#### Abstract

Pseudoaneurysms are localized arterial disruptions that communicate with an artery through a defect in the arterial wall. They are different from true aneurysms as they do not contain all three layers of the vessel wall. Pseudoaneurysms are commonly associated with penetrating trauma, iatrogenic injury during the cardiac, endovascular, or radiological intervention, or arterial-graft anastomotic disruption. (1)

Complications from pseudoaneurysms include thrombosis, distal embolization, and potential free rupture. Rupture of anastomotic

pseudoaneurysms results in high morbidity and mortality ranges from 20 to 46.6% (2)

Treatment in these cases is emergency surgery to prevent life or limb loss.

Herein we present a rare case of spontaneous rupture of an anastomotic pseudoaneurysm of the femoral artery 12 years after the surgery. Ligation of the prosthesis was performed very distally at the iliac level to stop blood loss. Suture of the deep femoral artery at its origin and drainage of the pseudoaneurysm was performed.

**Key words:** Pseudoaneurysm, rupture, surgery, emergency.

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## OP.63

### Nursing Career towards Profiling-Professional Master and Scientific Master

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The purpose of this article is about the options available to a nurse in Albania who has received a three-year Bachelor's Degree who, after being licensed, can work in Albania or in EU countries.

Nurses in Albania to obtain titles and degrees of Scientific research can apply and enter the 1-year Professional Master's Program - 60 ECTS credits or the 2-year Scientific Master's Program 120 ECTS credits. In both cases of farming in Albania, they also have the preliminary exam of a foreign

language from EU countries, but of the English language.

The benefits are great both professionally and financially. A nurse who receives the Master's Degree has the doors open to create at the beginning as a Head Nurse and as a Lecturer in the Medical Technical Faculty of the country.

The responsibilities are great and the comparisons with the scientific research titles of the EU countries and those of England and the USA are close, but there are differences both professionally and conceptually. In conclusion, the approximation of Curricula and Learning Programs with Names is possible, but with differences in professional content. Why a Master's Program in Nursing? Level of benefits-highest:

- MSN (Master Science of Nursing) or in Albania Master of Science in Nursing (MSHK), has greater potential benefits than their colleagues with Bachelor;
- MSN has a potential role in leadership: due to the higher educational level, because they find themselves more competitive for administrative or managerial positions in Nursing.

**Key Words:** MSN, DNP, MShK, MP, RN

#### OP.64

### The role of nurses and physiotherapists in the early mobilization of patients in the Intensive Care Unit

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#### Abstract

**Introduction:** Critically ill patients are at risk of different complications due to their medical conditions and prolonged state of immobility. Some of these complications can be addressed with early mobilization, which was shown to be safe, feasible, and recommended by guidelines.

**Aim of the study:** to give an overview of the early mobilization in the Intensive Care Unit and the physiotherapists' and nursing staff's involvement in early mobility procedures.

**Methods:** This was an observational cross-sectional study. ICU nurses and physiotherapists that worked in the University Hospital Center "Mother Theresa" and University Hospital of Trauma were approached to complete the survey regarding the early mobilization of critically ill patients.

**Results:** One hundred thirty-one completed questionnaires were returned from 189 questionnaires distributed to the survey participants, 101 completed by nurses and 30 by physiotherapists.

The survey showed that early mobilization was not a routine practice and mobilization in ventilated patients was low. Early mobility procedures were performed by nursing staff and physiotherapists. The nursing staff and physiotherapists were involved in assisting mechanically ventilated patients in sitting on the edge of the bed or transferring out of bed; however, they did not assist the patients in performing chair exercises or ambulating and walking with a portable ventilator. The nursing staff provided passive movements in bed for patients with artificial airways and out-of-bed mobility for patients not mechanically ventilated. Physiotherapists conducted limb exercises on the patients without an artificial airway, while they were not involved in all procedures of early mobility of mechanically ventilated patients.

All respondents confirmed that ICUs did not have guidelines or protocols for the early mobilization of critically ill patients.

**Conclusions:** The priority of the interventions in the Intensive Care Unit should be revised, considering early mobility a priority. Implementing national protocols regarding early mobilization and a multidisciplinary approach will lead to the early mobilization of ICU patients, changing the current practice and improving critical care patients' outcomes.

**Keywords:** early mobilization, Intensive Care Unit, critically ill patients, nursing staff, physiotherapist

#### OP.65

### Nursing care, during and after CABG surgery

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#### Abstract

**Background and purpose:** Coronary artery bypass grafting (CABG) is a major surgical operation where atheromatous blockages in a patient's coronary arteries are bypassed with harvested venous or arterial conduits. The bypass restores blood flow to the ischemic myocardium which, in turn, restores function, viability, and relieves anginal symptoms. In general, on-pump and off-pump are the 2 types of CABG surgical procedures with the difference being the use of a

cardiopulmonary bypass circuit and an arrested heart to operate during an on-pump CABG. The role of the professional nurse in the perioperative care of the patient undergoing open-heart surgery is beneficial for obtaining a positive outcome for the patient. The purpose of this study focuses on the preoperative and postoperative nursing care of patients undergoing coronary artery bypass graft surgery. Risk assessment, preoperative preparation, application of the nursing process after surgery, and common postoperative complications will be explored. The care of the CABG patient is intense, complex, and rewarding.

Most patients are transferred to a step-down unit or cardiac surgical floor on postoperative day at this phase is important to prepare the patient for transfer by talking to him and his family about the anticipated recovery phase. To provide a detailed report to the receiving nurse, including the patient's pre- and postoperative history, current lab values, medications, and an assessment of discharge needs.

The nurse accompanied the patient during the transfer. Once he's settled into his room, he'll be weighed and his cardiac rhythm monitored by telemetry. The nurse should review with the receiving nurse any additional interventions or assessments it is important to be aware for nutrition, decubitus, swallowing, respiratory physiotherapy and comforting the patient during these steps.

**Results:** The patient undergoing CABG surgery deserves to have confidence that the professional nurse is knowledgeable, caring, efficient, and effective in providing necessary perioperative care. Proper preparation of the patient and significant others, expertise during the intraoperative phase, and a thorough knowledge base combined with skill and compassion of the nursing staff during the postoperative phase increase the likelihood of a positive outcome for the patient.

**Method:** Before the surgery is important to have a physical and psychological care and support and to have a detailed medical history for risk factors and medications. After surgery, the PA catheter helps to manage the patient's hemodynamic status. Occasionally, a patient may have a central venous pressure (CVP) catheter instead, which provides information about preload. It is important to monitor parameters in *Hemodynamics*: Monitoring for hemorrhage, for other complication (neurologic, cardiac, pulmonary renal etc.).

**Conclusion:** Role of nursing on CABG surgery has a vital importance.

**Key words:** CABG surgery, Nurse care, complications

#### OP.66

#### BLS-D (Basic life support-Defibrillation)

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#### Abstract

**Background and purpose:** Basic Life Support defibrillations (BLS) is performed to support the patient's circulation and respiration through the use of cardiopulmonary resuscitation (CPR) until advanced life support arrives. Patients who have had early and correct BLS intervention will be better oxygenated and are more likely to respond to advanced techniques to revive them, thereby increasing their chance of survival.

**Method:** BLSD is the core of any resuscitation attempt, key elements include: Prompt recognition of cardiac arrest; Early effective CPR with an emphasis on minimal disruptions to compressions; Early defibrillation; Early advanced life support; Integrated post-cardiac arrest care

**Results:** Knowing of BLSD algorithm is mandatory for nurse staff of all levels

**Conclusion:** Application of BLSD algorithm is important to be known and performed if necessary by all nurse staff.

**Key words:** BLSD, cardiac arrest, nurse care

#### OP.67

#### The importance of asepsis at operator block

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#### Abstract

**Background and purpose:** Surgical site infections (SSI) account for 14% to 17% of all hospital-acquired infections and 38% of nosocomial infections in surgical patients. SSI remain a substantial cause of morbidity and death, possibly because of the larger numbers of elderly surgical patients or those with a variety of chronic and immunocompromising conditions, and emergence of antibiotic-resistant microorganisms.

Factors causing surgical site infection are multifarious. Several studies have identified the main patient-related (endogenous risk factors) and

procedure-related (external risk factors) factors that influence the risk of SSI. The rate of surgical wound infections is strongly influenced by operating theatre quality, too. A safe and salubrious operating theatre is an environment in which all sources of pollution and any micro-environmental alterations are kept strictly under control. This can be achieved only through careful planning, maintenance and periodic checks, as well as proper ongoing training for staff. Therefore, the prevention of SSI requires a multidisciplinary approach and the commitment of all concerned, including that of those who are responsible for the design, layout and functioning of operating theatres. The purpose of this study is

**Method:** Prevention of SSIs takes both head and hand. It requires long-term, continuous, and systematic work in several parallel processes, both intellectually and organizationally. The hierarchical tradition of the operating room is often ambiguous, shielded by its safe structures but still restricted by traditional patterns. The operating blocks had the same structural characteristics and organization of physical spaces. Operating room cleaning practices were carried out by competent and trained personnel between each operation and at the end of the daily operating session. Between one operation and the next, the cleaning protocol is applied. At the end of daily activity, cleaning procedures are repeated in the same manner.

**Microbiological Sampling:** Sampling was carried out "at rest", when no patients and surgical staff were in the operating theatre; For each operating room, air and surfaces were sampled for microbiological analysis.

Results: By setting up mutual platforms and forums for quality development, increasing legitimacy for OR nurses and establishing fixed teams, prevention of SSIs will continue to improve, ensuring the patients' safety during intraoperative care.

**Conclusion:** Standardized protocols of entrance, washing of medical staff and operation zone at operatory block, even that seems easy, have a major importance in the patient prognosis

**Key words:** Asepsia, OR, nurse care

#### OP.68

### The role of nursing care in ICU for the patients undergoing for vascular aorta surgery

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#### Abstract

**Background and purpose:** An abdominal aortic aneurysm (AAA) is a dilatation of the abdominal aorta with a diameter of at least 3.0 cm. AAAs are often asymptomatic and are discovered as incidental findings in imaging studies or when the AAA ruptures leading to a medical emergency. AAAs are more common in males than females, in individuals of European ancestry, and in those over 65 years of age. Smoking is the most important environmental risk factor. In addition, a positive family history of AAA increases the person's risk for AAA. Interestingly, diabetes has been shown to be a protective factor for AAA in many large studies. Hallmarks of AAA pathogenesis include inflammation, vascular smooth muscle cell apoptosis, extracellular matrix degradation, and oxidative stress. Autoimmunity may also play a role in AAA development and progression.

The purpose of this study is the standardization of nursing care in ICU in these patients.

**Method:** Are evaluated all patients that had abdominal aortic surgery during the period 2018-2022 at Cardiac and Vascular surgery ICU at Mother Theresa" HUC.

Are evaluated clinically, neurological examinations, invasive hemodynamic monitoring, drainage, hydroelectrolitic balance, use of inotrope drugs, and control of acid base equilibrium.

Results: In 80 patients, mortality 3, 2 of them resurgery, 15 hypertension 3 sepsis, 3 reintubation, no decubitus.

**Conclusion:** Role of nursing in early post operatory time has an important value.

**Key words:** Aortic abdominal surgery. Nurse care; complication

#### OP.69

### Transforming leadership in nursing care

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#### Abstract

**Background and purpose:** Tasked with improving patient outcomes while decreasing the cost of care provision, nurses need strategies for implementing reform in health care and one promising strategy is transformational leadership. Exploration and greater understanding of transformational leadership and the potential it holds is integral to performance improvement and patient safety.

Effective nurse leadership is positioned as an essential factor in achieving optimal patient outcomes and workplace enhancement. Over the last two decades, writing and research on nursing leadership has been dominated by one conceptual theory, that of transformational leadership.

**Method:** The influence of transformational leadership on organizational culture and patient outcomes is evident. Of particular interest is the finding that transformational leadership can be defined as a set of teachable competencies. However, the mechanism by which transformational leadership influences patient outcomes remains unclear.

This theoretical work is to provide insight into various leader characteristics, with research findings presented as persuasive evidence.

**Results:** Transformational leadership in nursing has been associated with high-performing teams and improved patient care, but rarely has it been considered as a set of competencies that can be taught. Also, further research is warranted to strengthen empirical referents; this can be done by improving the operational definition and exploring the specific mechanisms by which transformational leadership influences healthcare outcomes to validate subscale measures

**Conclusion:** Transformational leadership has become a predominant leadership style practiced by leaders across many industries and disciplines, including nursing. Transformational leaders focus on building relationships with people and creating change by emphasizing values. It needs to be further explored and implement.

**Key words:** Transformational leadership, Nursing

#### OP.70

##### Nursing care in hemodialysis patients

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##### Abstract

Chronic kidney disease (CKD) is a progressive loss of kidney function over a period of time that lasts from several months to several years. In the early stages, there are no signs or symptoms. The earlier the diagnosis is made, the more the chances of receiving the most effective treatment increase, but if it is not treated, it can progress to kidney dysfunction.

Stage I V(ERDS)

Not all kidney diseases progress from stage 1 to stage 5. Stage 5 is known as Chronic Renal Failure where the patient will undergo one of the renal replacement therapies.

Renal replacement therapy is one of the most important achievements of modern medicine and currently about 1.6 million patients with CKD stage IV are treated with dialysis therapy worldwide.

**Purpose:** Familiarity with the hemodialysis treatment process as the main treatment method for patients with damaged renal function in the last stage of CKD (ERDS)

Indications for starting hemodialysis treatment.

The selection of an optimal hemodialysis strategy which should also limit risk factors such as anemia, malnutrition, inradlytic overload as well as care for vascular access.As well as the role of the nurse in providing nursing care.

**Conclusion:** The recognition and prevention of risk factors would have a great value in improving the lives of patients, not only from the advancement of technology and medicine, but also from the health education and psychological support that we have as a duty to inform and teach.

#### OP.71

##### A retrospective analysis of the incidence of infection with sars-cov-2 of anesthesia staff in the anesthesia clinic in UCCK-Pristina

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##### Abstract

**Introduction:** Compared to other healthcare workers, anesthesiologists are more exposed to SARS-CoV-2 virus infection due to airway management (1) in operating rooms and intensive care. The purpose of the research: to assess the incidence of infection among anesthesiologists with the SARS-CoV-2 virus in the Anesthesiology Clinic of QKUK.

**Methodology:** The research was conducted retrospectively by distributing a survey to anesthesiologists and nurses at the clinic of Anesthesiology, who were engaged in the treatment of patients in intensive care and operating rooms during the period 2020-2021. The research collected demographic data, staff statements about the possibility of infection with the SARS-COV2 virus in hospital environments or outside of them.

**Results:** Out of 177 staff members of the Anesthesiology Clinic, 105 workers (59.2%) answered the survey, of which 28 were anesthesiologists (63%) and 77 (57%) were nurses of this clinic. The gender ratio of anesthesiologists was 50% female and 50% male, while 80.5% of the nursing staff were female. A total of 74.2% of the anesthesiology staff surveyed were infected, of which 82.1% of the anesthesiologists and 71.4% of the nursing staff. Regarding the place of infection, 7 anesthesiologists (25%) think that they were infected in the intensive care unit, 8 (28.6%) outside the intensive care unit and another 8 (28.6%) are not sure about the place of infection.

**Conclusion:** Direct contact with patients infected with COVID-19 in the intensive care unit and the creation of aerosols during the provision of airways to the patient constitute a high potential for infection of the staff. Therefore, the implementation of preventive measures and staff vaccination are important components in dealing with Covid-19 in this department.

**Key words:** Infection with the SARS CoV2 virus; Anesthesiologist

### TC.1

#### First Aid in the Hospital Setting.

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#### Abstract

First aid is the first and immediate assistance given to any person with either a minor or serious illness or injury, with care provided to preserve life, prevent the condition from worsening, or to promote recovery.

There are many situations that may require first aid, and many countries have legislation, regulation, or guidance, which specifies a minimum level of first aid provision in certain circumstances.

The primary goal of first aid is to prevent death or serious injury from worsening. The key aims of first aid can be summarized with the acronym of 'the three Ps':

**Preserve life:** The overriding aim of all medical care which includes first aid, is to save lives and minimize the threat of death.

**Prevent further harm:** Prevention of further harm includes addressing both external factors, such as moving a patient away from

any cause of harm, and applying first aid techniques to prevent worsening of the condition, such as applying pressure to stop a bleed from becoming dangerous.

**Promote recovery:** First aid also involves trying to start the recovery process from the illness or injury, and in some cases might involve completing a treatment, such as in the case of applying a plaster to a small wound.

In this training, we will focus on learning the basics of first aid and the equipment, skills, and common sense decisions that are in the best interest of an injured person.

### TC.2

#### Non-invasive Ventilation and its Features.

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#### Abstract

Non Invasive Ventilation and Oxigenation S strategies

NIMV provides respiratory support without use of invasive ventilation with techniques that do not bypass the upper airway. NIV is particularly attractive given its associated reduced risk of complications associated with intubation. Modes of NIV includes: nasal cannula, simple mask, nonrebreather, high flow nasal cannula, continuous positive airway pressure (CPAP), and bilevel positive airway pressure. Contraindication: facial trauma, GCS < 10, inability to protect airways, or clear secretions, upper airway obstruction, severe upper gastrointestinal bleeding, or when is required urgent intubation. NIV can be beneficial in: acute COPD exacerbation, cardiogenic pulmonary edema, COVID-19, certain cases of ARDS.

#### Intoduction

Hypoxemia is defined as a PaO<sub>2</sub> less than 80 mmHg on room air at sea level. There are a lot of reasons why a patient can be hypoxemic: subambient FiO<sub>2</sub>, hypoventilation, V/Q mismatch, shunt, or diffusion defect. It can be manifested clinically as: tachycardia, dyspnea, shortness of breath, tachypnea, the use of accessory muscles, altered mental status.

Priorities of using NIV compared with invasive ventilation: it provides ventilation without bypassing the upper airway, it's more comfortable for the patient compared with invasive ventilation, and complications related with intubation

and mechanical ventilation, can be avoided (aspiration, trauma to surrounding structures, barotrauma, ventilator-associated pneumonia). NIV modalities

Low flow nasal cannula: is a old, simple and commonly used method of oxygen delivery therapy. It's a variable performance tool, that provides flows 1-6 L/min, corresponding a  $FiO_2$  0.22-0.4. The  $FiO_2$  value varies from patient to patient, depending of inspiratory flow and rate, respiratory rate, air dilution, dead space.

Downside to nasal cannula: drying of nasopharyngeal mucosa, potential discomfort when it is used for a long time.

Simple mask  $Ox$ : is used when a higher  $FiO_2$  is required. It has a reservoir of 100-200ml in adult size, providing a higher  $O_2$  concentration, with a  $FiO_2$  0.3-0.8 for a  $O_2$  flow 5-10 L/min.

Nonbreather mask: it has a reservoir of 300-600 ml attached with a valve between the bag and the mask. It can reach a  $FiO_2$  concentration between 0.6-0.9 for a flow mask 15 L/min.

The Venturi mask is a face mask that allows the delivery of a predetermined  $FiO_2$ , between 24-60%. Disadvantages include discomfort of the patient from the displacement of the mask and dry sensation from nonhumidified oxygen delivery.

High flow/fixed performance device, such as Optiflow: can deliver  $O_2$  with the desired  $FiO_2$  at a high flow reaching 60 L/min, while providing heated humidified air. It can secure a washout of physiological dead space, decreased RR, increased tidal volume, increased end expiratory volume and some degree of PEEP.

CPAP applies a continuous positive end expiratory pressure in a spontaneously breathing patient, occurring during both inspiration and expiration. PEEP increase functional residual capacity, opens underventilated alveoli, reduces atelectasis and improve pulmonary compliance. Oxygenation is improved with less patient work. PEEP also improves cardiac function, decreasing left ventricular afterload and increasing cardiac output.

BPAP therapy uses a pressure cycling mode. The device alternates delivering end inspiratory positive airway pressure and end expiratory positive airway pressure. The difference between the 2 preset pressures determines the tidal volume. Minimal settings are 8 cm H<sub>2</sub>O for IPAP and 4 cm H<sub>2</sub>O for EPAP.

### TC.3

#### Endotracheal intubation and mechanical Ventilation.

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**Aim:** The purpose of this training is giving information about a life saving procedure as intubation and mechanical ventilation: What does it mean? Why do we need it? How is it done? What tools do we need? Are there any algorithms? Any difficulties? How we deal with them?

Explaining in simple words and ways, giving examples and training participants actually to do the entire procedure by them selfs.

**Result:** Participants by the end of training should know the principles of endotracheal intubation, algorithms, tools, and tricks used during the procedure.

**Reference:** Miller Anesthesia textbook, Morgan & Michail's clinical anesthesia, Pubmed literature

### TC.4

#### Peripheral and Central Vascular access.

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#### Abstract

Cannulation of peripheral and central veins is the daily routine of the anesthesiologist and resuscitator. The moment of cannulation, choosing the type, place, method of insertion can be decisive in the treatment of the patient in any situation. It is important for updating the CVC classification guidelines, the way of placement, the choice of the type of the venous path based on the pathology of the patient, the type of therapy to be applied, its duration, the accompanying disease. The use of eco guides is now a standard and mandatory method in special situations. It makes it possible to reduce complications, determine the the most favorable positioning for the patient, the early detection of complications during the cannulation procedure. Also, through ultrasound control, it is possible to recognize the anatomical features of the central and peripheral veins. The management of the venous path, the prevention and treatment of complications, especially those of an infectious nature which sometimes have very serious consequences in intensive care patients.

## TC.5

### Successful management of acute respiratory failure with non invasive mechanical ventilation after drowning, in an epileptic patient. Case Report.

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#### Abstract

Sea drowning is a common cause of accidental death worldwide. Respiratory complications such as acute pulmonary oedema, which is often complicated by acute respiratory distress syndrome, is often seen. Noninvasive ventilation is already widely used as a first approach to treat acute respiratory failure resulting from multiple diseases. We report a case of a 45 year old man with a history of epilepsy, moto and mental handicap who developed acute respiratory failure secondary to sea water drowning after an epileptic crisis. We illustrate successful and rapid management of this case with noninvasive ventilation. We emphasize the advantages and limitations of using noninvasive ventilation to treat acute respiratory failure due to sea water drowning syndrome.

**Case presentation** A 45-year-old (height 170 cm/weight 75 Kg, BMI 25) Caucasian man, neversmoker, with history of epilepsy with mental retardation and behavioral problems. While he was lying on the foreshore, the patient developed an epileptic crisis with loss of consciousness and inhalation of sea water. Bystanders reported that submersion duration was less than 1 min, and cardiopulmonary resuscitation by emergency medical service was not necessary. The patient was transported to the accident and emergency department in acute respiratory failure, and initially treated with a high dose of oxygen (FiO2 60% Venturi Mask 12 L/m). On admission, the patient presented a moderate impaired sensorium (GCS 12). Physical examination revealed the presence of bilaterally inspiratory and expiratory coarse breath sounds. Chest x-ray revealed diffused patchy bilateral opacities. Chest CT confirmed mixed consolidation/ground glass opacifications. Serum blood analysis revealed only mild elevation of CRP and fibrinogen with normal leucocytes. Arterial blood gas-analysis during oxygen therapy (FiO2 60%) documented acute decompensated respiratory acidosis with severe hypoxemia and hypercapnia (pH 7.27; PaO2 50 mmHg; PaCO2 70 mmHg; Sat 80%; HCO3 25.2mEq/L).

The patient was admitted to the hospital and an NIV trial session was decided and promptly started. NIV nasobuccal mask (medium). Ventilator setting was: pressure support (PS) 10 cmH2O; positive end-expiratory pressure (PEEP) 5 cmH2O; respiratory frequency (RF) 10; inspiratory trigger 1 L/min; inspiratory time (T<sub>insp</sub>) 0.8 s; FiO2 50%. The patient was administered intravenous moderate dosage corticosteroid (prednisone 80 mg) and antibiotic (Piperacillin/Tazo-bactam 4 g/0.5) therapy. A 10 ml/kg target expiratory tidal volume was set during the first hour of ventilation: it was achieved with a progressive increase of PS from 10 cmH2O to 15 cmH2O. No change in PEEP was adopted. After 2 h of assisted ventilation, a second arterial blood gas analysis was performed with evidence of significant improvement (pH 7.36, pO2 70.2 mmHg, pCO2 44.2 mmHg, HCO3 24.4 mmol/L, BE -1.2 mmol/L). After 12 h of assisted ventilation, a third blood gas analysis documented a complete resolution of acute respiratory failure (pH 7.38, pO2 91.1 mmHg, pCO2 41.6 mmHg, BE-0.9 mmol/L, HCO3 24.2 mmol/L) so NIV was stopped and patient was treated with low flow oxygen therapy (2 L/min by nasal cannule). Vital signs were stable over the successive 48 h with valid diuresis and progressive improvement of consciousness (GCS 14). After 72 h from admission, a control chest CT revealed a significant reduction of alveolar and ground glass opacities. After 96 h, the patient was discharged in a stable condition.

**Conclusion** Acute respiratory failure secondary to submersion injury is a frequent condition with high morbidity and mortality. NIV represents an effective approach avoiding more severe complications due to conventional ventilation.

#### EP.1

### Protective ventilation of Covid-19 Patients in ICU

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#### Abstract

**Introduction:** The pandemic covid 19 continues to threaten morbidity and mortality for 3 years. Sars-cov2 is cause bilateral interstitial pneumonia in patients, which gives in 5% of cases severe respiratory failure that requires non-invasive or invasive ventilatory support. Mechanical ventilation of patients with covid-19, can itself cause aggravation of respiratory insufficiency. The

syndrome of lung damage from mechanical ventilations is called VILI (Ventilator-Induced Lung Injury). The mechanism of action is the hyperextension of the alveoli, which leads to an increase in alveolar permeability, alveolar and interstitial edema and alveolar hemorrhage, the creation of hyaline membranes, a decrease in surfactant function, and finally alveolar collapse. Barotrauma, volutrauma, atelectotrauma, are the keys to explaining the mechanism of lung damage from ventilation, which worsens the clinical situation of serious patients with covid-19. Are considered necessary to perfect the best ventilatory methods, relying on experience and the best international literature for the treatment of patients with covid-19.

**Materials and Methodology:** This work was carried out by relying on the review, published literature on protective ventilation and retrospective comparative study of two groups of patients treated in the ICU with covid-19. The first group of patients treated with conventional ventilation, high PEEP,  $V_t=8$  ml/kg, normal respiratory frequency,  $P_{plateau} >30$ , late intubation (after the first week of hospitalization in the ICU, supine and lateral position). The second group, adequate PEEP, high respiratory frequency,  $P_{plateau} <30$ , driving pressure  $<15$ ,  $V_t +4-6$  ml/kg, early intubation (in the first week of hospitalization in the ICU). Survival, complications, such as pneumothorax, pneumomediastinum, average days spent on the ventilator and in the ICU were compared between the two groups.

**Data:** Were taken from the above two groups, from 18 patients with severe covid-19 treated in ICU, m/w ratio 1:1, average 60+/-15 years, over 75% of lungs affected by interstitial pneumonia.

**Results:** Survival in the first group with VC is 3/18 (16%), the average stay in the ICU is 42, in the ventilator is 33, nr of patients with pneumothorax is 3, with pneumomediastinum is 5. Survival in the second group with PV is 6/18 (33%), average day in the ICU 28, on ventilator 18, nr of patients with pneumothorax 1, with pneumomediastinum 2.

**Discussions:** Our study cannot be completely generalized due to the small number of patients and the non-inclusion of other clinics in the study.

**Conclusions:** Patients who are ventilated with ultraprotective ventilation have higher survival and lower complications and lower hospital costs.

**Key words:** Covid-19, protective ventilation, survival, mortality, PEEP, plateau pressure.

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#### EP.2

### A 33 years old man with aortic coarctation and aortic regurgitation at the same time

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**Introduction:** Coarctation of the aorta is one of the most frequent congenital cardiac pathologies (5-8%). It is characterized by narrowing at the level of the arch of the aorta, after the exit of the subclavian artery, and is characterized by high blood pressure that appears at young ages. It is often associated (up to 40%) with aortic bicuspid. Rarely, bicuspidia can be accompanied by aortic regurgitation to advanced; the latter especially in Marfan subjects who have connective tissue problems.

**Case report:** Male, at a young age, who appears in the emergency room due to headaches and high blood pressure. Refers to a 2-month history of hypertension. In the examination, BP is 160/90 mmHg, and on auscultation, there is a systolic murmur in the back. The laboratory balance resulted in the norm. In cardiac echo: dilated VM with preserved EF (52); bicuspid aorta with dilatation of the ascending aorta 43 mm, aortic regurgitation to advanced; aortic coarctation with Gr between 21.5 mmHg, Gr max 44.5 mmHg.

Aortic angio-CT was performed where coarctation of the aorta was confirmed. The patient underwent surgery. Due to the difficulty of the complex pathology, the surgery was performed in a specialized center outside the country. The procedure was performed in two sessions: in the beginning, the replacement of the aortic valve was performed with thoracic surgery, and after two weeks, the stenting of the percutaneous coarctation was performed. In routine checks after surgery, the patient was in good condition.

**Conclusion:** Early detection of congenital pathologies is important, to treat them early and to avoid the risks they present. A large number of these pathologies are diagnosed through echo, an examination that must be performed in every case of doubt.

**Keywords:** aortic bicuspid valve, aortic regurgitation, aortic coarctation

### EP.3

#### Giant infero-posterior thrombosed aneurysm in a patient with silent infarction

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**Introduction:** Left ventricular (LV) aneurysms are complications of LV wall damage that are associated with thinning and loss of cardiac muscle tissue. These complications occur more often after myocardial infarctions and necrosis.

Inferoposterior localizations are rare, 5-10% of all aneurysms. These are accompanied by severe complications: severe mitral regurgitation, rupture of the free wall, heart failure, lethal arrhythmias.

**Case report:** The 64-year-old patient presented to the emergency room with dyspnea, frequent palpitations and pronounced physical weakness for a period of 3 weeks. The patient refers that she was treated for HTA and DM. It does not refer to previous history of chest pain. On examination, fc ~100/min, BP 110/75 mmHg, rough breathing with rale at baseline, without peripheral edema.

Laboratory balance: high blood sugar and a slightly altered renal function. EKG fa with fc~100/min, q in inferior connections. A large thrombosed inferoposterior aneurysm (calcified thrombus) is seen in the echo. EF of VM ~26%. Moderate mitral regurgitation. The patient refused further invasive examinations (coronarography) and surgical therapeutic alternatives. Under these conditions, the patient was treated with medication (anti-ischemic therapy, anticoagulation, diuretic and insulin therapy). At the next check-up, the patient was presented to the district cardiologist, where the condition was relatively calm.

**Conclusion:** Considering the frequency of silent cardiac complications in diabetics, it shows the importance of routine checks for the early diagnosis of accompanying cardiac pathologies, thus avoiding their severe life-threatening complications.

**Keywords:** inferoposterior aneurysm, silent infarcts

### EP.4

#### Myocardial metabolism during different types of cardioplegia

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**Introduction:** There are two techniques of cardioplegia:

Anterograde Cardioplegia (Aortic Root cannulation)

Retrograde Cardioplegia (Coronary Sinus Cannulation)

There are six types of Cardioplegia Solutions In our country according to our possibilities, we use three types of cardioplegia:

St, Thomas II

Warm Mix Blood Cardioplegia (Albanian Cardioplegia Solution)

Warm Blood cardioplegia (Calafiore)

**Methods and Patients:** A group of 60 patients from 10 January 2013 until December 2020 were enrolled in our study, with Coronary artery disease programed for Coronary artery Bypass Grafting (CABG)

**The aim** of our study was to evaluate which type of cardioplegia solution has superiority in CABG

**Results:** Based on our study, we evaluated that Warm Blood Cardioplegia has advantages compared to the other methods, in Coronary artery disease.

We found superiority of WBC in laboratory and clinical outcomes intraoperative and post-operative: Measurements of TnI and Lactic Acid Levels, Sinus Rhythm Recovery, Ventricular Fibrillation after aortic declamping, necessity of temporary pace maker, blood transfusion, Intensive care stay

**Conclusion:** we found superiority of Warm Blood Cardioplegia in CABG

## EP.5

### Anesthetic issues relating to the care of women with pre-eclampsia

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#### Abstract

Pre-eclampsia is a multisystem disease unique to human pregnancy characterised by hypertension, proteinuria and organ system involvement. The disease is responsible for considerable morbidity and mortality, complicating 5–8% of pregnancies. Deaths are due to intracranial haemorrhage and cerebral infarction, acute pulmonary oedema, respiratory failure and hepatic failure or rupture. Severe maternal complications include antepartum haemorrhage due to placental abruption, eclampsia, cerebrovascular accidents, organ failure and disseminated intravascular coagulation. Pre-eclampsia is the leading cause of fetal growth restriction, intrauterine fetal demise and preterm birth.

Pre-eclampsia is classified within the broad category of hypertensive diseases of pregnancy. Pre-existing or chronic hypertension is present before and often during pregnancy, and gestational weeks' hypertension is defined as hypertension arising after 20 gestation, without any other organ system involvement. The pathophysiologic basis of preeclampsia is deranged angiogenesis with incomplete trophoblastic invasion leading to small, constricted myometrial spiral arteries with exaggerated vasomotor responsiveness, superficial placentation, and placental hypoperfusion. Women who experience pre-eclampsia are at increased risk of hypertension, cerebrovascular disease and ischaemic heart disease, in later life. Anaesthetists are frequently involved in the multi-disciplinary management of critically ill women with pre-eclampsia, and clinical practice should be based on current scientific evidence.

Risk factors for eclampsia include nulliparity, multiple gestation, molar pregnancy, triploidy, pre-existing hypertension or renal disease, previous severe preeclampsia or eclampsia, nonimmune hydrops fetalis, and systemic lupus erythematosus.

Neuraxial anaesthesia is the preferred anaesthetic technique for delivery by caesarean section, it provides excellent maternal pain relief and increase utero-placental perfusion in preeclamptic

pregnancy. General anaesthesia may be necessary in a small number of cases for a variety of reasons including coagulopathy, pulmonary oedema or eclampsia, in women with depressed levels of consciousness before caesarean section.

The aim of this study is to identify the anesthetic risk factors of preeclampsia and the advantages and limitations of regional anesthesia in cesarean delivery in preeclamptic patients.

Preeclampsia may be associated with hematologic changes that may have impact on the choice of anesthesia technique. Perioperative resuscitation of the women with severe preeclampsia and strategies for prevention of convulsions are the main goals of anesthetic management in preeclampsia.

**Key words:** preeclampsia, regional anesthesia, pregnancy.

## EP.6

### Sedation Challenges: Obesity and Sleep Apnea

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#### Abstract

**Introduction:** Obesity and morbid obesity are defined as a body mass index (BMI) more than 30 kg/m<sup>2</sup> and BMI more than 40 kg/m<sup>2</sup>, respectively. Obesity has been growing in number over the recent decades [1]. Patients with obesity and morbid obesity are more prone to a multitude of diseases compared with nonobese patients. This results in a higher number of patients in this population presenting in endoscopy, radiology, and operating rooms requiring sedation. The goals of every procedural sedation include providing anxiolysis, analgesia, and preventing movement during the most stimulating parts of the procedure. However, the choice of drugs varies on the provider's experience and comfort level. Morbid obesity by itself poses an increased risk of anesthetic complications. These patients are associated with a higher incidence of adverse respiratory events including upper airway obstruction, obstructive or central respiratory depression that may require some form of airway intervention.

Unique to obese patients is the altered physiologic and anatomic changes that affects the pharmacokinetic properties of the sedation drugs [2]. The increased prevalence of sleep apnea with concomitant carbon dioxide retention, reduction in functional residual capacity, and cardiac

dysfunction are some of the anatomic changes in obese patients that contributes to alteration in pharmacodynamic agents of the drugs used for procedural sedation [3].

This presentation brings to the audience our experience of safely using propofol as the best drug for sedation along with small doses of fentanyl/sufentanil. In our practice endoscopic and other procedures requiring moderate to deep sedation are performed on a routine basis requiring less than an hour after the procedure of patient's hospital staying. In the end of every procedure the patient awake on his feet is sent to another monitoring room, going on with a large number of procedures in the same day. In very rare occasions happened that we needed to secure patients airway. There is only one case that needed intubation.

**Keywords:** obesity, sedation, airway, endoscopy, sleep apnea

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**EP.7**

**Superior mesenteric vein thrombosis. Case report**

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**Introduction:** Thrombosis of the superior mesenteric vein is an abdominal emergency which rarely diagnosed early. Typical symptoms include: abdominal pain, vomiting, fever, and fever. It is classified into primary and secondary. MVT is a rare disease with a high mortality rate, which is estimated to occur in 5-15% of patients with ischemia acute mesenteric.

The male patient, 42 years old, presented to the Surgical Emergency QSUT with a prolonged febrile condition of 21 days, for determination (temperature up to 41 ° C). In thoraco-abdominal CT performed with I.V. contrast material. the presence of thrombus is evident the left branch of the VMS with the presence of air bubbles inside as well as aneurysmal expansion in the distal segment. An encapsulated collection is observed in the periphery, which suggests a post thrombus

hematoma. After consultations with surgeons, gastrohepatologists and angiologists recommended antibiotic and anticoagulant therapy. On the recheck scanner after 3 months complete resorption of the thrombus was observed, without complications.

**Conclusion:** Computed tomography identifies approximately 90% of cases of venous thrombosis mesenteric, which is more common in men and in individuals aged 40 to

60 years old. Despite the high mortality of mesenteric vein thrombosis, diagnosis in early stages, anticoagulant therapy and in some cases surgery have made it possible reducing this mortality rate, referring to similar studies in the world.

**Keywords:** CT, thrombosis, mesenteric vein, anticoagulants.

**EP.8**

**Sedation for Colonoscopy in a Patient with Narcolepsy-Cataplexy Syndrome Case Report**

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**Abstract**

**Background:** Narcolepsy is a neurological disease characterized by excessive sleep during the day, involuntary daytime sleep episodes, disturbed nocturnal sleep, sleep paralysis catalepsy (sudden loss of muscle tone without loss of consciousness) due to malfunction of the orexinergic (orexergic) system such as loss of OXergic neurons and deficiency of orexins. Its treatment includes stimulants (e.g. , amphetamines), tricyclic antidepressants, serotonin reuptake inhibitors and behavioral therapy. Anesthetic implications include increased sensitivity to anesthetic agents, increased risk of postoperative apneic episodes, and interactions with treatment medications Prolonged emergence from general anesthesia would be expected in patients with narcolepsy. The desirable anesthetic management of patients with narcolepsy is to decrease the dosage of anesthetic and analgesic agents and/or use short-acting agents to prevent delayed emergence. Here, we report anesthetic management of a narcoleptic patient undergoing a colonoscopy procedure.

**Case Report:** A 26 year old woman, required a colonoscopic procedure. The patient had a life-long history of involuntary sleepiness, (mostly after feeding), diagnosed with Narcolepsy-Cataplexy at the age of 15yr old, under treatment with Prozac

(20mg/daily) and Modafinil (100mg/daily) She refers 5-6 episodes of narcolepsy and cataplexy almost every day. Co-existing pathologies: cardiac arrhythmias. Slightly overweight, sedentary lifestyle. She denied alcohol or tobacco use. No abnormal laboratory findings. At examination, her blood pressure was 115/80mmHg and her heart rate was 72 beats/min. Physical examination was unremarkable. The patient received 500ml of normal saline, 30mg Ketorolac and 10mg Buscopan iv, starting 10 minutes before the endoscopic procedure. Routine monitoring devices such BP, ECG and SpO<sub>2</sub>, were placed, and the patient breathed 3L/min of oxygen by nasal cannula. Intravenous sedation was induced with 50mg of propofol and then maintained with fractionated 50mg of propofol for 15 minutes. After the colonoscopic procedure was completed, the patient was able to open her eyes upon verbal command, During the procedure her sedation scale was 3-4 according to Ramsey Sedation Score. The patient was discharged from the clinic, 1 hour after the procedure was completed, in normal clinical state of conscious.

**Discussion:** Narcolepsy is a sleep disorder that occurs in approximately 1 in 4,000 persons in the United States. Onset usually occurs during adolescence. Once established, the condition becomes chronic, without remission. Little information is available regarding the anesthetic treatment of these patients. Theoretically, prolonged emergence and postoperative hypersomnia after general anesthesia are serious concerns. No clinical reports show the use of propofol in patients with narcolepsy. Propofol has a rapid onset of action and results in prompt patient recovery without residual sedation, probably because of its fast and extensive hepatic metabolism and rapid clearance. Our patient did not receive opioid analgesics during sedation because of the potential and theoretical risk of inducing apneic spells. A multimodal analgesia seems to be a good option for these patients.

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#### EP.9

#### The effect of direct oral anticoagulants on Coagulation

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#### Abstract

Direct oral anticoagulants have improved anticoagulation options for many patients, but they present challenges regarding monitoring and reversal of anticoagulant activity.

Anesthesiologists are likely to encounter patients taking direct oral anticoagulants in a variety of clinical settings including scheduled procedures, emergency procedures, trauma, and critical care units. The direct oral anticoagulants are approved and prescribed for a number of indications to prevent and treat thromboembolic disease. According to their pharmacodynamic effect, Dabigatran Bivaliridin and Argatroban are direct thrombin inhibitors and Apixaban, Rivaroxaban, Betrixaban and Edoxaban are Xa inhibitors.

The direct oral anticoagulants have rapid onset of anticoagulant activity, reaching peak anticoagulant effect within 0.5 to 4h of ingestion. The half-lives are also relatively short and considerably shorter than the pharmacodynamic effects of vitamin K antagonists, averaging 12h. The exception is betrixaban with a half-life of 19 to 27h, with effects lasting up to 4 days after the last ingestion. The predictable pharmacokinetics of the direct oral anticoagulants and their wide therapeutic window allow for standard fixed dosing without monitoring as with vitamin K antagonist. Although monitoring direct oral anticoagulant plasma levels, at patients presentation with bleeding or need for emergent

surgery still remains a challenge in our daily clinical practice. For patients who present with bleeding, direct oral anticoagulant concentrations of more than 50ng/ml are considered high enough to warrant use of a reversal agent, whereas the threshold for major surgery has been set at a maximum of 30ng/ml. Routine coagulation test include thrombin time (TT) for dabigatran and anti Xa levels for Xa inhibitors. Both these tests can be use as qualitative, but not as quantitative measures for the direct oral anticoagulants. Point-of-care tests currently in development using whole blood or urine samples report results within 10min, allowing rapid detection of the presence of a direct oral anticoagulant to determine whether reversal is needed. So, clinically relevant is the timing of last ingestion, if the last ingestion was greater than 24h and the metabolic pathways of elimination are normal, the anticoagulant effect is not likely to be present.

The need and availability of an anticoagulant reversal should be assessed. The specific reversal agents for dabigatran and the anti-Xa inhibitors are idarucizumab and andexanet alfa, respectively. Routinely, can be used a nonspecific reversal agent for Xa inhibitors, such the prothrombin complex concentrate.

**Conclusions:** Managing patients taking direct oral anticoagulants who unexpectedly present with the need for emergency surgery can be challenging. Clinical decision pathway for direct oral anticoagulants (DOAC) reversal should assess if the patient can proceed to surgery or undergo significant invasive procedures with minimal impairment of hemostasis, or whether reversal agents use should be considered. For patients with life-threatening bleeding, reversal agents should be used first according to label. If anti-Xa level or thrombin time is not available 24 h per day, administer reversal agent based on renal function and time since last ingestion.

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#### EP.10

#### Application of diagnostic protocols in Covid-19

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The Covid-19 pandemic found the world unprepared for such a situation, creating a real collapse for the world health systems. Among the most affected sectors were radiology and resuscitation, which, in addition to the fact that they had to cope with an extraordinary flow of patients, also had to make decisions regarding the specific management of each case. Initially, the imaging tests were being used to diagnose positive cases for Covid-19, which was later rejected by the CDC, ACR and other organisations who were afraid of the radiation doses that patients received during these examinations.

The definitive test for SARS-CoV-2 according to CDC recommendations is: RT-PCR, which turns out to have a high specificity but with sensitivity reported as low at around 60-70%. Medical imaging plays an important role in supporting clinical decision-making in the diagnosis, management and treatment of patients with Covid-19. They prove useful for the differential diagnosis between Covid-19 and other viral respiratory diseases with similar symptoms.

Chest X-Ray and CT are included in the arsenal of medical imaging, each of them with its own advantages and limitations.

In patients who need to perform CT, it should be kept in mind that it is performed without I.V. contrast media, with volume reconstructions from 0.625 to 1.25 mm.

Radiography practice must adapt significantly to the new requirements to support optimal and safe imaging practices for the diagnosis of Covid-19. Adaptation of low-dose CT, rigorous infection control protocols, and optimal use of personal protective equipment can reduce the potential risks of radiation exposure and infection, respectively, within Radiology departments.

According to the American Congress of Radiology: CT or X-Ray is not recommended to be used for screening or as first-line diagnostic tools for the diagnosis of COVID-19.

**Keywords:** Covid-19, CT, X-ray, PCR-RT test.

#### EP.11

### Anaesthesia techniques for open abdominal aortic surgery

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#### Abstract

**Background:** Abdominal aortic surgery is a major high-risk surgical procedure undertaken in patients with significant comorbidities and poor physiological reserve, which result in high mortality rates. The aim of this study is to compare different anesthetic approaches and how they affect in long-term survival and postoperative complications.

**Method:** A retrospective, observational, based on case studies, comparing cases under general anesthesia versus cases under combined epidural and general anesthesia. The cases are divided into two groups, patients scheduled for elective surgery and emergency ones, taking into consideration the condition of the patient before the surgery.

**Results and Discussion:** There is a significant long-term survival benefit in patients undergoing epidural anesthesia combined with general anesthesia in abdominal aortic surgeries. This survival benefit could probably be attributable to reduced immediate postoperative adverse events such as bowel ischemia, respiratory complications, myocardial infarction, dialysis requirement, wound complications, and need for surgical reintervention within 30 days of surgery which make the post-operative period smoother and allow earlier mobilization of the patient.

**Conclusion:** There are pros and cons with both methods. However, epidural anesthesia in addition to general anesthesia should be strongly considered in suitable patients undergoing open abdominal aortic surgery.

#### EP.12

### Infective endocarditis in patient with bicuspid aortic valve

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#### Abstract

**Background:** Infective endocarditis (IE) is caused by damage to the endocardium of the heart with subsequent colonization by an organism that adheres to the tissue creating a vegetation, more commonly occurring on damaged valves. It is a serious disease that is easily misdiagnosed and has a high mortality rate if left untreated. The most common predisposing lesion for aortic valve endocarditis is congenitally bicuspid aortic valve and a weakened aortic root, which may complicate infective endocarditis in 9.5% of cases. Embolic events occurring in 20-50% of patients. The brain and the spleen are the most common sites of left-sided IE. *Staphylococcus hominis* is a Gram-positive, coagulase-negative bacteria that occurs as a normal commensal organism on the skin and may rarely cause native valve endocarditis (NVE).

**Case Presentation:** A 42-year-old female presented at Emergency Department with chest pain, weakness, fever 38.8 C, left-sided abdominal pain, fatigue. History for a week with symptoms. Her past medical history Laparoscopic Cholecystectomy 2 months ago. Transthoracic echocardiogram (TTE) showed vegetation on the bicuspid aortic valve with severe aortic stenosis and a dilated left ventricle with severe dysfunction and subsequent transesophageal echocardiogram (TEE) confirmed these findings. Laboratory findings included elevated inflammatory markers.

The CT chest-abdomen revealed bilateral pleural effusion, splenic infarcts. Two sets of blood cultures were positive for *Staphylococcus Hominis*. The patient underwent surgery for aortic valve replacement along with receiving IV antibiotics.

**Conclusion:** Infective endocarditis can present with a wide variety of symptoms and early diagnosis can be challenging. Delay in diagnosis and treatment may be associated with complications, including valvular regurgitation, heart failure (HF), embolic events, and sepsis.

### EP.13

#### Atrial fibrillation following coronary artery bypass graft surgery: Our experience with 100 patients, and a short review

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#### Abstract

**Introduction:** Postoperative atrial fibrillation (POAF) is the most common complication after cardiac surgery. AF occurs in 5-40% of patients after coronary artery bypass graft surgery. While POAF can be transient and without consequences, it may lead to serious complications, increasing mortality and morbidity in the post-operative period. Risk factors can be patient-related, intraoperative and postoperative. The aim of this study was to estimate the frequency of atrial fibrillation in patients after coronary artery bypass graft surgery combined with valvular replacement or not.

**Methods:** A total of 100 patients from February to April 2022, mean age  $66 \pm 13$  years, 30% women, undergoing coronary artery bypass graft surgery University Hospital Centre "Mother Teresa" Tirana, were prospectively enrolled.

**Results:** Postoperative atrial fibrillation occurred in 16 patients (16%) at a median of 3.7 days after cardiac surgery (2nd – 7th days). 94% (15) of POAF occurred in CABG only, 6% (1) in combined intervent (AVR et CABG). Atrial fibrillation occurred was evaluated 18.4% (9 pts / 49 CABGx3) in CABGx3, 13.0% (6 pts / 46 CABGx2) in CABGx2. 7.7% (1 pts / 13 CABG et valve replacement) was frequency in combined interventions CABG with valve replacement. AF was evaluated as equivalent (8 / 16) in patients who underwent bypass graft of RCA/PDA vessels, compared to patients who did not underwent bypass of these vessels. Electrolyte imbalance was seen in 37.5% (6 / 16) of POAF, and SpO2 level lower than 92% was seen in 25% (4 / 16). Hematocrit level was no significant.

**Conclusion:** Atrial fibrillation is the most common complication after coronary artery bypass graft surgery. The occurrence is not dependent on the type of intervention (only CABG or combined with valve replacement), on number of vessel that underwent bypass grafting, or type of vessel. Electrolytic imbalance should be assessed during the postoperative course of patients who undergo coronary artery bypass. POAF was detected in 16%

of patients, which is a good result compared to other studies.

**Keywords:** Atrial fibrillation, Coronary artery bypass graft surgery, Cardiac Surgery.

### EP.14

#### Nutrition support in critically ill patients, indications and problems

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#### Abstract

**Background:** Individuals suffering from critical illness often exhibit a systemic inflammatory response, which can be triggered by a catabolic stress state. Complications such as multi-organ failure and increased infectious morbidity are not uncommon. In addition, adequate nutrition can help decrease the metabolic response to stress and improve the immune response. The aim of this study is to bring to our attention the guidelines ASPEN/ESPEN for the nutritional support in critically ill patients, in such a way that it can reduce hospital stay and improve the patients outcomes.

**Method:** Indirect calorimetry is the preferred method for assessing resting energy expenditure and the appropriate caloric and protein intake to counter energy and muscle loss. The guidelines recommendations Aspen/Espen.

**Result and Discussion:** The case mix of patients admitted to intensive care units may range from those admitted electively after major elective surgery to those admitted as emergencies after some surgical catastrophe, major trauma, sepsis, or respiratory failure. The variation in age range and prior health status may be extreme and nowadays ICUs are admitting increasingly more elderly, frail, or malnourished patients whose nutritional reserve may be severely compromised.

**Conclusion:** Nutrition support in critically ill patients is an essential therapy, as its timing, route, and amounts of macronutrients and micronutrients affect the course of the disease and its outcomes. Based on the current evidence, the nutrition status of critically ill patients should be assessed on admission and periodically; EN is preferred over PN in general, should be started early within 24–48 h, and should be gradually increased to goal over at least a few days; in certain patients, such as those with severe shock, EN may be delayed to avoid mesenteric ischemia; supplemental PN is indicated if EN is inadequate in the first week; a full dose of enteral protein is

probably more appropriate in the late phase of critical illness, when catabolism ceases and anabolism becomes more active; immune-enhancing enteral formulas and supplementation of micronutrients and antioxidants should not be provided on a routine basis. Although patients receiving artificial nutrition should be closely monitored.

#### EP.15

### Invasive ventilation vs non-invasive ventilation in acute respiratory distress patients during Covid-19 pandemic

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#### Abstract

**Introduction:** One of the biggest challenges of all healthcare system during the Covid-19 pandemic was the management of acute respiratory distress syndrome (ARDS) in intensive care unit (ICU). The main dilemma was deciding the ventilation strategy, if the patient should be kept in non-invasive ventilation (NIV) or invasive mechanical ventilation (MV), and if MV is the chosen option when is the right moment to do it. Meanwhile, below is presented our experience in the fight against Covid-19 in the most difficult times where everything was unsure and the only known for the world were the past experiences.

**Methods:** The study is a retrospective quantitative one. The comparison was between the two above techniques, and the benefits of each were evaluated based in our own departments' experience. This study includes the period of December 2020 --March 2021 and August 2021--January 2022, in ICU department, with two groups of patients: "patients with Covid-19 who needed NIV" and "patients with Covid-19 who needed MV". The factors taken into consideration were: age, comorbidities, time of diagnosis, severity of symptoms, time in hospital, time of recovery, imaging and laboratory results, complications, mortality. The findings were presented using student T-test, ANOVA and Chi-square.

**Discussion:** The main question of our study is if the patient needs invasive ventilation and when? Based in our experience, we evaluated how NIV could affect the outcome of the disease and if it can be used as a treatment on its' own or as complementary of MV. It was also evaluated NIV and MV effect in the disease progression and mortality. The findings show even results of these

techniques in the management of moderate ARDS cases.

**Conclusion:** The real impact of invasive mechanical ventilation in Covid-19 patients still remains questionable. It actually depends if the Covid-19 patients needed invasive ventilation or could be treated using high influx O<sub>2</sub>-therapy avoiding more traumatic invasive techniques. Furthermore, even the high tidal volumes and P-SILI which play important role in respiratory insufficiency progression of Covid-19 patients, do not support the early use of endotracheal intubation because of the documented fatale known consequences. The need for invasive mechanical ventilation is related to the severity of laboratory and imaging findings in the presenting moments. In conclusion, both NIV and MV have high hospitalisation time, expenses and mortality for the patients.

#### EP.16

### Aortic dissection with mini sternotomy using petal patch technique

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#### Abstract

38-year-old male presented to the emergency department of "Nene Tereza" hospital with severe chest pain spreading to the jaw and both shoulders, as well as general body weakness. The patient was known to have ascending aorta dilatation (50 mm) for 4 years. CT angiography showed a dissection of the aorta, Stanford type A, and in the echocardiogram the aortic valve results with moderate to severe regurgitation. We decided to perform dhe surgical procedure with median ministernotomy, taking into consideration the young age of the patient as well as faster post-surgical recuperation and less trauma. Femoral artery and double stage cannulation of the appendage of the right atrium was performed to enter the extracorporeal circulation.

After the arrest with selective crystalloid cardioplegia solution we inspected the aorta and noticed the dissection flap and the rupture that reached to the level of the right coronary ostium. The aortic valve was tricuspid with very good morphology. We performed replacement of the ascending aorta to the arch level with Albograft tube nr. 32 using the petal patch technique to replace the right coronary sinus. After that, we implanted the right coronary ostium in the petal patch. The procedure was successful. The patient

was extubated the next day and was discharged 7 days after the intervention with no major complications. The post operative echocardiogram (performed one week and three months after the intervention) showed no aortic regurgitation, with normal aortic gradient.

#### EP.17

##### **Intravenous nicardipine for the treatment of severe hypertension. A double-blind, placebo-controlled multicenter trial**

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#### *Abstract*

**Introduction:** A placebo-controlled, double-blind multicenter trial was conducted in 123 patients with severe hypertension to examine the efficacy and safety of intravenously administered nicardipine hydrochloride in controlling blood pressure. Seventy-three patients were initially randomized to receive nicardipine treatment. This group had an initial blood pressure of 213 +/- 3/126 +/- 2 mm Hg. Sixty-seven patients achieved the therapeutic goal (diastolic blood pressure less than or equal to 95 mm Hg; systolic blood pressure less than or equal to 160 mm Hg). Fifty patients were randomized to receive placebo solution. Blood pressure in these patients was 216 +/- 3/125 +/- 2 mm Hg. No patient in this group achieved the therapeutic goal during the "blinded" portion of the study. Forty-four of 49 patients who did not respond to placebo administration responded to subsequent treatment with nicardipine.

**Conclusion:** Patients with end-organ damage were included in the study. These included patients with left ventricular hypertrophy, retinopathy, and renal insufficiency. Patients with and without end-organ damage responded equally well to nicardipine treatment. Serious adverse experiences were infrequent, the most common adverse reaction being headache in 24% of the patients studied

#### EP.18

##### **Intraoperative Takotsubo cardiomyopathy during Totalintravenous Anesthesia Case Report**

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#### *Abstract*

**Introduction:** In this retrospective study, we reviewed the case of an 81-year-old woman who was scheduled to undergo dacryocystitis surgery. Medical history : hypertension treated with Losartan. No history or symptoms of coronary disease or heart failure with good functional capacity. The patient had undergone one previous general anesthesia without complications. General anesthesia was induced with fentanyl, propofol, and vecuronium. She was a grade one intubation and, as such, received minimal stimulation. Anesthesia was maintained with Propofol and Remifentanyl. During induction and before the surgery, all of the vital functions monitored remained within normal limits. Fifteen minutes after induction, just after infiltration with Lido-Adrenaline for an unknown reason, she developed profound bradycardia and hypotension with pulseless electrical activity requiring cardiopulmonary resuscitation (CPR) including intravenous atropine 3 mg and inotropes. After 15 minutes, hemodynamic stability was obtained. Surgery continued and, in the end, the patient was transferred intubated to the ICU. A tentative diagnosis of myocardial ischemia was made and a cardiologic consult was obtained. Myocardial ischemia was suspected after which echocardiogram revealed reduced left ventricular systolic function (ejection fraction 35%). Also there were regional wall motion abnormalities and severe mid-distal anterior and apical hypokinesis. High levels of Troponin, more than 10 times normal, were measured after 2 hours. An electrocardiogram (ECG) was performed on admission, which showed ST-Tchanges in precordial leads from V1 to V6, D1, aVL with T-wave inversion. Cardiac catheterization was performed, which showed obstructive right coronary artery disease. Coronary angioplasty with stenting of RCA was realized. A Takotsubo cardiomyopathy (TCM) is characterized by transient ventricular dysfunction

in the absence of obstructive coronary artery disease that may be triggered by an acute medical illness or intense physical or emotional stress. Diagnosis of Takotsubo cardiomyopathy was made. Five days later, the patient was released from the hospital with better-than-normal cardiac function. She was followed up with an echo at 6 weeks, which proved total resolution of her ejection fraction.

**Conclusions:** Takotsubo Cardiomyopathy (TCM) presents a severe emergency condition. The goals of intervening in this situation are :

- Getting a thorough and precise patient Medical History
- Pre-intervention evaluations and examinations
- Maintaining vital parameters to secure the patient
- Cardiology consultation and diagnosis
- Heart catheterization
- Maintaining patient health stability

**History and Follow-Up:** On this case report the team included : anesthesiologist, head and neck surgery with ENT and cardiologists. Our team treats a wide range of ENT conditions in a large number of patients. The patient and condition presented were the first to occur on a patient during head and neck surgery/ENT.

**Evaluation:** A team working in a hospital center with the help of cardiologists and a cardiac catheterization laboratory provides valuable information to establish the diagnosis and guide appropriate hemodynamic therapy. Takotsubo cardiomyopathy is associated with acute physical or emotional stress, the likely pathophysiological mechanism being a surge in endogenous catecholamines. Our patient was electively admitted, had undergone anesthesia previously without complications, so although emotional stress is a well recognized cause for Takotsubo, it is interesting that this occurred post induction, with the secession of emotional stress due to post induced unconsciousness with anesthesia and prior to any procedure. Although stress seems to be the most frequent trigger for the development of TC, a stressful event is not always evident as happened in our case.

**Objectives:** Learning the precise medical history of the patient

- Detailed thorough anamnesis
  - Earlier medical conditions and treatments
  - Earlier examinations and evaluations
- Maintaining intra-op patients vital parameters
- Appropriate induction anesthesia
  - Appropriate maintenance anesthesia

- Resuscitation Continued Diagnosis and Treatment in ICU
- Continued evaluations and examinations
- Cardiology consulting
- Heart Catheterization Post-op patient care
- Hospitalization
- Follow-up with Cardiologists

## EP.19

### PSA- Procedural sedation and analgesia

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#### Abstract

PSA it refers to the administration of short-acting sedative-hypnotic or dissociative medications, with or without the addition of an analgesic medication, to patients undergoing invasive procedures that provoke anxiety or are painful, with the sole purpose of reducing discomfort, sedating the patient, or inducing sleep.

It represents an intermediate solution between being awake and deep anesthesia, the medications we use allow a state of relaxation anxiolysis that is characterized by pleasant relaxation, awake to deep sleep, depending on the requirements and needs or the invasive procedure for which it will be performed. used; all this is achieved by using short-acting substances, the effect of which can be controlled depending on the needs and the situation. That will result in reduced rate for the need and risk of general anesthesia.

With the development of invasive diagnostic procedures, there is an increased need for the procedural sedation and analgesia (PSA). Many patients prefer sedatives or sleeping pills for endoscopic examinations, partly due to previous experience, partly due to fear of an unpleasant procedure. The arguments for this are, in addition to greater patient comfort, better working conditions for the examination team, as well as based on positive patient experience reports. Procedural Sedation and Analgesia has found it's wide use on medical procedures like: wound debridement, thoracic drainage, abscesses drainage also it widely been used during radio-diagnostic examinations such as CT and MRI on uncooperative patients, during endoscopic

procedures of the gastrointestinal tract, dental procedures, cardioversion, superficial reconstructions of the skin during plastic interventions, in cases where regional block fails or local anesthesia is insufficient with the presence of patient discomfort.

Patients who are under sedation must always be monitored by following the vital parameters and at the same time it must be possible to reduce or increase the level of the depth of sedation, without forgetting here that the administrator must possess the relevant skills and equipment for resuscitation by following with vigilance the responsiveness of the patient (response to verbal or tactile stimuli), the need for airway support or not, affection and the presence of spontaneous breathing as well as hemodynamic parameters - cardiovascular function.

During the PSA, the preliminary assessment of the patient's health condition, the type of procedure to be performed, the skills and training of the medical staff, the availability of monitoring, equipment and medications should be taken into account.

The final goal to be achieved is the balance created by the triangle of hypnosis, analgesia and cardiovascular stability, always bearing in mind that all medications used during PSA can be overdosed and consequently cause anesthesia<sup>1</sup>. The ideal medication for PSA would have to carry characteristics such as: fast action, short duration of action, respiratory stability, hemodynamic stability, be fully metabolized, have reversible effects.

The most common medications used for this purpose are Midazolam, Propofol, Ketamine, Hypnoidate, Dexmedetomidine, Fentanyl, Alfentanyl, Morphine and Remifentanyl, even in some cases pharmaceutical combinations like Ketofoli (Ketamine+Propofol) were created with the sole purpose of sedation is improved by eliminating the unwanted effects associated with the use of each individual medication.

In the search for an ideal preparation for analgo-sedation, it was noticed that the effect of Dexmedetomidine is pleasant for both the patient and the anesthetist who administers it, of course always under the relevant monitoring of vital parameters and accurate dosing with the help of electric syringes (perfusors), although approved by the FDA since 1999, and in Japan 2004, to be used in PSA in Europe, the use of dexmedetomidine remains off-label for PSA, in doses of 0.2-1.4mcg/kg/h with onset of action within 5- 10 min and duration of action depending on the dose 1-2h

With the advantage of a non-deep sedation where the patient has preserved the response to verbal stimuli, the presence of spontaneous breathing, without the need to reduce doses in renal insufficiency, preferred for patients with obstructive sleep apnea as well as patients with morbid obesity<sup>2</sup>

As a relatively new preparation with effects such as sedative, anxiolytic and sympatholytic with a wide range of use such as for anesthesia in non-intubated patients<sup>3</sup>, it enables the reduction of the dose of analgesics including opiates<sup>4</sup>, with wide use in patients with burns as a result of the inhibition of the response of catecholamines<sup>5</sup> as well as in the syndrome of abstinence from alcohol - inhibition of NOR, and inhibition of autonomic hyperactivity<sup>6</sup> can be used before the placement of the laryngeal mask where the doses of profoli used for the same are reduced<sup>7,8</sup>, the elimination of the sensation than discomfort it during the placement of the urinary catheter<sup>9</sup>

Risks such as hypotension, bradycardia (need for continuous cardiac monitoring), AV block, dose reduction in liver function adjustments should be considered.

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#### EP.20

#### Impact of Sars Cov 2 in the Central Nervous System Case Report

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#### Abstract

**Presentation:** Coronavirus disease Covid 19 is a new disease which was first discovered in China in December 2019.

Mostly of the infected patient will only have mild respiratory symptoms and will need no specific treatment. In the other side elderly patient and people with following comorbidities like heart and lung diseases, diabetes and cancer disease are at higher risk of developing a severe symptomatology. In the beginning of the epidemic Covid -19 was mostly considered respiratory disease, but after some time it showed that it was a systematic disease that affected many organs, including the nervous system. The virus has undeniable neurological symptoms starting from headache, anosmia, ageusia to delirium, stroke or cerebral hemorrhage. Scientist tried to investigate if the Sars Cov 2 was infecting directly the neurons and the other cells in the brain. Studies has found that the virus targets the neurons and through the inducted coagulopathy-ischemic stroke and death of the cells.

**Case presentation:** Presentation of a case, patient of 39 years old brought in the Emergency Unit in Skopje, after collapsing in his workplace. In the first clinical examination, he was unconscious, with dilated pupils, no heartbeat, no breathing and cyanotic all over his body. Immediately a CPR was started from the anesthesiologist. The patient was intubated, and inotropes were given. The heart was restarted and the blood pressure came to an acceptable range, the pupils were constricted too. The patient was sent to examination, a CT was performed and he was taken care in the Clinic of Anesthesia, Reanimation and Intensive Care. In heteroanamnesis, from his spouse we find out that the patient was infected recently with Sars Cov 2, with a positive test, 7 days before collapsing.

**Conclusion:** After collecting all the examination it was concluded that the virus has made many ischemic damages in the brain, which will have many impacts in the life of a young patient with no other comorbidities, no chronic disease and therapy.

## EP.21

### The toxic Megacolon, an uncommon presentation of one undiagnostic Morbus Hirschsprung

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#### Abstract

**Introduction:** The toxic Megacolon, an uncommon presentation of an undiagnostic

#### Morbus Hirschsprung

**Background:** The toxic Megacolon, uncommon presentation of an non diagnostic Morbus Hirschsprung. Toxic megacolon is a serious complication of inflammatory bowel disease. Toxic megacolon is a life-threatening condition characterized by nonobstructive segmental or pan colic dilatation of at least 6 cm with systemic toxicity. It was recognized by Marshak and Lester in 1950. Although inflammatory bowel disease (IBD) is a common reason for toxic megacolon, other etiologies including infections, inflammation, bowel ischemia, radiation, and certain medications can lead to the development of this condition. These disorders are common enough in children that most pediatricians and other pediatric clinicians will encounter children with IBD in their general practice. Inflammatory bowel disease is caused by a dysregulated mucosal immune response to the intestinal microflora in genetically predisposed hosts. Although children can present with the classic symptoms of weight loss, abdominal pain<sup>1</sup>, and bloody diarrhea, many present with nonclassic symptoms of isolated poor growth, anemia, or other extraintestinal manifestations.<sup>2</sup>

**Case presentation:** D.S 14 old patient admitted in the digestive surgery clinic as abdominal distension, terrible abdominal pain, abdominal swelling above the level of the chest, difficulty in breathing. Tahypnea, hypertension 180/110 mmHg, HR= 160-180/min, with RTG sings for ileus of colon, laboratory parameters LE=16,9 X 10<sup>9</sup> /L, CRP=24 mg/L. The surgical treatment was indicated immediately. After induction, crush intubation, we decide for analgo-sedation to use RemifentanilTCI system 0.5 µg/kg. During the intervention the hemodynamic of patient get improved TA=130/70 mmHg; HR over 100-110/min.

**Operation treatment:** In this case was made: Laparotomia mediana eplorativa; Colectomia totalis cum ileostoma unipolaris, Lavage, Drainage. After intervention patient was sent at ICU with stable hemodynamic, slow awaking and supervision! The next day patient was transferred to the surgery digestive clinic.

**Conclusion:** Early diagnosis always avoids unnecessary complications! The intraoperative application of Remifentanil in this case was the right choice for the treatment of toxic megacolon.

**Keywords:** toxic megacolon, abdominal distension, remifentanil, colectomia totalis

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## EP.22

### Perioperative treatment of VSR after acute myocardial infarction, our experience

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#### Abstract

**Introduction:** Ventricular septal rupture (VSR) is a rare potentially catastrophic mechanical complication of acute myocardial infarction (AMI), often presenting with cardiogenic shock. It occurs in <1% of patients following a myocardial infarction (MI) and it is associated with a high morbidity and mortality despite improvements in medical and surgical therapies. Early surgery represents the gold standard for VSR treatment, but even when prompt intervention can be offered, in-hospital mortality remains high and has not improved over the past 2 decades. Transcatheter device closure has been alternatively proposed, but so far, procedural mortality has been as high as traditionally reported for surgical repair, suggesting that percutaneous treatment may be appropriate in selected cases. When acute myocardial infarction (AMI) is complicated with VSR, the patient's clinical condition can suddenly worsen. The ideal timing of intervention remains controversial. Mechanical circulatory support (MCS) may allow hemodynamic stabilization and delay definitive treatment even in critical patients. From the physiopathological point of view, we have biventricular insufficiency. Although current guidelines suggest immediate surgery for all patients who do not rapidly respond to aggressive therapy, there is no consensus on the optimal timing for intervention. Significantly poorer survival has been reported for patients operated on acutely compared with those undergoing delayed procedures. Our experience is

not very good in both, immediate surgery and delayed procedures with 90% mortality.

**Keywords:** VSR, AMI, cardiogenic shock, surgery, emergency

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## EP.23

### Arterial Thrombosis in Covid-19 patient

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#### Abstract

**Background:** COVID-19 is associated with deferent thrombotic events.

There is still to understand the mechanism of thrombotic events.

**Case Report:** We report the case of a COVID-19 patient admitted for pneumonia who developed arterial thrombosis 7 days after dehospitalisation, without a predisposing source of embolism.

**Discussion:** Our patient 69 years old male had passed covid-19 disease in moderate to severe situation, He was hospitalized for 15 days and after 7 days in home he presented to emergency room, Physical examination was concerning for absent dorsalis pedis and posterior tibial (PT) artery pulses in his left foot, which was cooler than his contralateral foot and with a necrotic aspect. He was found to have no sensation in the plantar aspect. Vascular surgery was consulted and angiogram was done. After spinal anesthesia the amputation was performed.

**Conclusion:** Covid-19 is not only pulmonary disease, but systemic and most importantly a vascular one

## EP.24

### Systemic lidocaine for postoperative analgesia in patients after elective surgery

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#### Abstract

**Background:** Different analgesic techniques and multimodal analgesia very often failed to manage properly postoperative pain. This research aimed to investigate the analgesic effects of systemic lidocaine on postoperative pain management in patients undergoing elective surgery.

**Materials and Methods:** Seventy patients scheduled for elective surgery were randomly assigned to one of two groups. Patients in the lidocaine group received lidocaine during the induction phase of anesthesia as a bolus injection of 1.5-kg/mg over 10 min, followed by intravenous infusion of 1.5 mg/kg/h. Patients in the control group received an equal volume of saline as placebo, and administered at the same rate. Pain scores at rest and in movement were the main outcomes whereas total analgesic use, length of hospital stay, incidence of nausea and vomiting, initiation of intestinal motility, side effects, and hemodynamic parameters were secondary outcomes.

**Results:** Pain scores at rest and during movement were significantly lower in the lidocaine group compared to those in controls with significant difference between groups at every single time interval measured ( $P < 0.001$ ). Total analgesic use in the postoperative period was significantly lower in the lidocaine group ( $P < 0.001$ ). No significant differences between groups in mobilization, length of hospital stay, the beginning of intestinal motility, and side effects were observed.

**Conclusions:** Management of postoperative pain with systemic lidocaine has been shown to be a fairly easy technique to perform with low-cost and very effective outcomes.

**Keywords:** systemic, lidocaine, pain management, elective surgery

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## EP.25

### Refractory atrial fibrillation in polytransfused patients during cardiac surgery

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#### Abstract

New-onset atrial fibrillation (AF) occurs in 10% to 43% of patients in hospital in the wake of cardiac surgical procedures and is believed to contribute to increased morbidity, hospital length of stay and resource utilization. Post operative atrial fibrillation (POAF) has a peak incidence on postoperative day 2. It is associated with numerous risk factors including advanced age, pre-existing conditions that cause cardiac remodelling and certain non-cardiovascular conditions. The pathogenesis of POAF is incompletely understood but likely involves interplay between pre-existing physiological components and local and systemic inflammation. Recent evidence supports the notion that blood transfusion (BT) enhances the inflammatory response, thereby increasing the incidence of post-operative AF. We present a case series of polytransfused patients who have undergone cardiac surgery and have developed refractory POAF despite pharmacological and electrical cardioversion attempts.

**Conclusions:** Recent evidence support the notion that BT is associated with increased occurrence of postoperative AF after cardiac surgery. The aforementioned cases highlight the installation of a resistant atrial fibrillation in poly transfused patients after cardiac surgery. However, due to the widespread incidence and numerous comorbidities associated with POAF, and above all the lack of the sufficient cases, further investigation with a larger number of subjects could suggest a relation between the units of BT and refractory AF.

**Keywords:** refractory atrial fibrillation, cardiac surgery, blood transfusion, inflammation, cardioversion

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