get insight into front line, health care staff experiences with end-of-life issues. The study was undertaken in three distinct research sites in the Republic of Croatia and involved health care staff participants (physicians and nurses) from six health care institutions (six NICUs and six PICUs).

A total of 21 physicians and 25 nurses participated in eight focus groups.

Analysis revealed two main themes, that were equal among professional groups as well as NICU and PICU units. Theme critically ill child consisted of child, family, myself, and other professionals subthemes. Theme end-of-life procedures consisted of subthemes: breaking point, decision-making, end-of-life procedures, 'spill-over' and the four walls of the ICU.

Perceptions and experiences of end-of-life issues by nurses and physicians working in NICU and PICU share multiple common characteristics.

Interrelatedness of high emotional and cognitive demands and burden associated with end-of-life issues in this setting seems to have a significant influence on personal and professional lives of professionals.

Additionally, high variability of end-of-life applied procedures, and various difficulties experienced during shared decision-making process, stresses the need for developing guidelines that will inform such a practice, while considering specific perspectives of everyone involved.

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A REVIEW OF EXPERT RECOMMENDATIONS ON END-OF-LIFE ISSUES IN PEDIATRIC INTENSIVE CARE SETTING

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One of the most ethically challenging issues in modern medicine are the ones related to end-of-life care. This is especially evident in intensive care setting where healthcare professionals are often involved in decisions about withholding or withdrawing potentially life-prolonging treatment and/or decisions on alleviation of suffering with a possible life-shortening effects. In pediatric intensive care setting, including both neonatal and pediatric intensive care units, there are additional layers of complexity added to end-of-life issues, as patients and their close ones are especially vulnerable and issues around usability, reliability and validity of surrogate decision makers are widespread. These complexities create many tensions that results with high variability on how end-of-life issues are approached in theoretical discussions, handled in practice. Not only that there is a high variability in that sense on global scale, but there is high variability within similar cultural, social, legal and health care contexts, as well as even between different institutions, units, and health care professionals in the single context. This creates a growing need for standardized, clinical and professional guidelines, ones that will be informed by all stakeholders that are included in this process.

There are many recommendations and guidelines regarding treatment end-of-life care created by national and transnational institutions, while only few of them considering pediatric intensive care setting. In order to systematically identify them a systematic literature search in bibliographic databases and grey literature sources was conducted. The constant comparative qualitative analysis was used in order to identify and

extricate their ethical content including ethical positions, ethical arguments and corresponding ethical principles. The aim was to extricate main ethical challenges, to explore how they are dealt with (on a theoretical and practical level), and to extricate main arguments and justifications on which their recommendations are based. The emphasis was placed on how those guidelines are handling specific end-of-life care issues regarding palliative care and/or palliative/terminal sedation; withholding and withdrawing of treatment interventions; and, where applicable, intentional terminating of life. Finally, similarities and disparities between these guidelines are presented and discussed, while also considering their (dis)similarities with guidelines dealing with end-of-life issues in adult intensive care settings.

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DRUG INDUCED CARDIAC ARREST IN AN ADOLESCENT WITH HYPERTROPHIC CARDIOMYOPATHY?

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We present an adolescent with newly diagnosed hypertrophic cardiomyopathy who suffered cardiac arrest with ventricular fibrillation.

We assume these conditions could have been caused by substances commonly abused by adolescents: anabolic steroids and synthetic cannabinoids. Previously healthy, muscular, seventeen-year-old adolescent was examined by a paediatric cardiologist because of chest pain. Asymmetric hypertrophic cardiomyopathy without outflow tract obstruction was diagnosed, with sinus rhythm in 24 hour holter electrocardiogram. Avoidance of sport activities and bisoprolol therapy was suggested, which the patient did not comply to.

There were no heart diseases in the family history.

Four months after, the patient suddenly collapsed while sitting.

Resuscitation was started immediately and defibrillation was used because of ventricular fibrillation. Patient was transferred to the hospital. After additional 80 minutes of resuscitation with recurring ventricular fibrillation, a stable pulse was regained. Since the hemodynamic stability was not achieved with high catecholamine doses, venoarterial extracorporeal membrane oxygenation (ECMO) was administered, which stabilized the hemodynamic status. Day after, the ultrasound showed left ventricle ejection fraction of 45-50%, and a thickened 26-milimeter septum with hyperechogenic and hypokinetic middle part, possibly attributed to ischemic necrosis. Four days later ECMO was discontinued. On day 32, the patient was discharged from the hospital in a good condition with a normal neurological status, and with implanted automatic cardioverter defibrillator.

Three months after the discharge, ultrasound showed a 15-milimeter septal thickness and left ventricle ejection fraction of 62%. Cardioverter defibrillator was not activated after implantation. The patient's appearance was less muscular than at the time of incident.

Although we were not able to prove the presence of anabolic steroids, patient's muscular appearance and a newly

diagnosed heart condition chronologically connected with the gym activities, made us suspect of abuse of anabolic steroids as the cause of hypertrophic cardiomyopathy. A gradual decrease of the septal thickness later may be connected to the abstinence from steroids after the incident, although it also may be attributed to ischemic myocardial necrosis.

Synthetic cannabinoids, usually sold as cheap air fresheners, are known to cause cardiac infarction and arrest. They are difficult to prove by laboratory tests. Sources other than the patient and his parents strongly suggested that the patient took those substances just before the cardiac arrest. We presume that there is a significantly greater risk of a life-threatening arrhythmia and/or cardiac arrest in the case of hypertrophic cardiomyopathy if the patient abuses synthetic cannabinoids.

330 RARE CASE OF EXTENSIVE DEEP VEIN THROMBOSIS AND GIANT THIGH ABSCESS DUE TO STREPTOCOCCUS PYOGENES SEPSIS

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We report a case of extensive deep venous thrombosis (DVT) and giant thigh abscess associated with *Streptococcus pyogenes* sepsis.

A five year old girl was referred to our PICU with an extensive DVT of the right leg confirmed by CT scan and with 48h history of fever. There was no evidence of abscess or other abnormalities. Three days before admission, she fell from her bicycle and broke a tooth. The older brother had streptococcal pharyngitis. Initial laboratory findings showed CRP 360 mg/dL, PCT 78 ng/ml, leucocytosis (20.100/uL), neutrophilia (banded 6% and segmented 84%), normal haematocrit and low platelet count (48/uL). The remaining laboratory values, including electrolytes and coagulation tests were normal. Eventually, *Streptococcus pyogenes* was isolated from blood culture. Subcutaneous enoxaparin was started as well as antibiotic therapy – with vancomycin, clindamycin and meropenem. The observed progression of leg swelling raised the suspicion of a cellulitis or DVT progression with developing compartment syndrome and the patient underwent surgical exploration. Apart from enlarged, reactive lymph nodes, there were no abnormalities found intraoperatively. However, after 5 days of treatment her thigh became painful, red and warm. Control CT scan showed a huge thigh abscess and prompt evacuation of abscess with debridement of necrotic tissue was performed. Eventually we confirmed FV Leiden mutation, as well as low protein C and high homocysteine levels.

Infectious diseases are often accompanied by activation of coagulation.

Cytokines are believed to be important mediators in this process. A critical role for antecedent soft-tissue injury has been well established and microorganisms likely hematogenously translocated from throat to deep soft tissues (in this case by a broken tooth). Vein thrombosis often accompanies or precedes abscess formation. However, massive DVT should always raise suspicion for thrombophilia.

CT and MRI scans should be interpreted with caution because *S. pyogenes* doesn't promote forming of gas in the

tissues or form free abscesses, so radiologist's interpretations are frequently not definitive.

Prompt and aggressive surgical exploration and debridement of suspected deep-seated streptococcal infection are mandatory, as well as anticoagulant therapy. If treated properly, morbidity could be significantly reduced.

331 THE ROLE OF AMBULANCE IN HEALTH SYSTEM

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The aim of our research was to investigate the diseases of 0-18 year old patients admitted to the 'Muratsan' University hospital complex(UHC) Intensive care unit (ICU) and toxicology for the last 7 years, including cases delivered to the hospital by the ambulance service and analysis of their final diagnoses.

A retrospective study was performed using medical charts up to 7 years (2012-2018) from 'Muratsan' University hospital complex(UHC) ICU and toxicology. The overall number of patients was 5152, among them 3074 were male and 2078 were female. In this study we have included the most typical diseases (pathologies) for each particular season. This study included cases delivered to the hospital by the ambulance service and analysis of their final diagnoses.

According to the results of our study, 1695(32,8%) patients were hospitalized with an ambulance: 164(9,7%) of them had Acute respiratory infections(ARI), 780(46%) had Acute Intoxications(AI), which is seasonal and includes mostly carbon monoxide(CO) intoxication, KMnO₄, flavor essence and alcohol poisoning. 375(22,1%) patients had Acute Drug Intoxications(ADI), 81(4,8%) had complaints of allergy. 295(17,4%) of patients had other disorders*. Patients were divided into 4 age groups (0 -1; 1-7; 7-14; 14-18), the first group-189, the second-922, the third-334 and the fourth-250. 669 (39.5%) of cases were moderate, 968 (57.1%)-heavy and 22 (1.3%)-extremely heavy (two of which ended in death), 36 (2.1%) cases have not been reported.

*Diabetes mellitus, epilepsy, cancer, hematological disorders, etc.

We found out that the two most common diagnoses of patients who were admitted to the hospital by ambulance are ADI and AI independent of the season. The prevalence of moderate cases is also high, which may be related to the level of care provided by parents to their children. Low mortality level of extremely heavy patients who were arrived at the hospital by ambulance lets us consider about the quality of ambulance function.

332 WITH OR WITHOUT REFERRAL?

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