



Balkan
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of
Forensic Sciences

BALKAN ACADEMY OF FORENSIC SCIENCES

13TH ANNUAL
SCIENTIFIC MEETING
27 - 29 OCTOBER 2022

ABSTRACT BOOK

BAFS 13TH ANNUAL SCIENTIFIC MEETING

Balkan Academy of Forensic Sciences
13th Annual Scientific Meeting
Abstract Book

Editors:

Zeynep Betül Usta
Sotirios Kalfoglou

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Balkan Academy of Forensic Sciences 13th Annual Scientific Meeting Abstract Book 2022
Edited by Zeynep Betül Usta and Sotirios Kalfoglou

2022

Calendar of Events

Thursday, October 27, 2022

Poster exhibitions are open for viewing at any time on our website

Venue: AAB College Prishtina

09:00 - 10:00	Registration
10:00 - 10:30	<p align="center">KEYNOTE ADDRESS</p> <p>Naim Uka, Conference President, <i>Kosovo</i> Dafina Gexha–Bunjaku, Minister of Health, <i>Kosovo</i> Uranela Demaj, AAB College Vice Rector of Science and Research, <i>Kosovo</i> Ersi Kalfoğlu, President of BAFS, <i>Türkiye</i></p>
10:30 - 11:00	<p align="center">PLENARY SESSION</p> <p>Professor Peter Vanezis OBE MB, ChB, MD, PhD, FRCPath, FRCP(Glasg), FFFLM, FCSFS, FAFMS(UK), DMJ(Path) Professor Emeritus of Forensic Medical Sciences Cameron Forensic Medical Sciences Clinical Pharmacology Barts and the London United Kingdom</p> <p>“Enhancing Research and Output in Forensic Medicine: Strategies and Challenges”</p>
11:00 - 11:30	Break

11:30 - 12:00	<p>Keynote Speaker:</p> <p>Duarte Nuno Vieira Professor of Forensic Medicine Forensic Sciences Ethics and Medical Law</p> <p>“Armed Conflicts and Humanitarian Forensic Action”</p>
12:00 - 13:45	<p align="center">FORENSIC PATHOLOGY SESSION</p> <p>Chair: Naim Uka</p>
12:00 - 12:15	<p>-O1-Aspects of Forensic Examinations of Albanian Victims After the End of The Kosova War Of 1999 <u>Bardhyl Cipi</u>, Naim Haliti, Admir Sinamati <i>Albania</i></p>
12:15 - 12:30	<p>-O2-Morphological Changes Caused by Hyperthermia - Pilot Study of Wistar Rats <u>Emina Dervišević</u>, Nina Čamdžić, Suada Kuskunović-Vlahovljak, Muamer Dervišević <i>Bosnia and Herzegovina</i></p>
12:30 - 12:45	<p>-O3-Sequelae of Chemical Burns. Case Presentation and Literature Data <u>Silvia Șpac</u>, Gabriela Crăciun, Irina Manoilescu, Bianca Hanganu, Beatrice Ioan <i>Romania</i></p>
12:45 - 13:00	<p>-O4-The Effect of General Physical and Genital Examinations on the Judicial Process <u>Aybike Avgören Kapoğlu</u>, Bora Büken, Ayşe Merve Öbek <i>Türkiye</i></p>
13:00 - 13:15	<p>-O5-Evaluation of Elements in Human Dental Tissue in Terms of Determination of Postmortem Interval <u>Sertaç Dalgıç</u>, Selçuk Çetin, Bülent Eren, Yakup Budak, Nihat Akbulut <i>Türkiye</i></p>
13:15 - 13:30	<p>-O6-A Review in Postmortem Computer Tomography (PMCT) in COVID-19 Deaths <u>Yanko Kolev</u> <i>Bulgaria</i></p>

13:30 - 13:45	<p>-O7-Severe Stress Disorder – Medico-Legal Consequences <u>Calin Scripcaru</u>, Diana Bulgaru-Iliescu, Diac Madalina, Silvia Spac, Andrei Scripcaru <i>Romania</i></p>
13:45 - 14:30	Lunch Break
14:30 - 15:00	<p>Keynote Speaker:</p> <p>John Clark Forensic Pathologist Forensic Expert at International Criminal Court</p> <p>“Graves and Other Repositories: What can Pathologists Tell from Bodies in the Ground?”</p>
15:00 - 16:15	<p>CRIMINALISTICS SESSION</p> <p>Chair: Yakno Kolev</p>
15:00 - 15:15	<p>-O8-Learning Out of The Box: First Training Facility in Europe for DVI with Human Body Donators ETAF <u>Sven Benthau</u> <i>Germany</i></p>
15:15 - 15:30	<p>-O9-Adapting International Forensic Workflow in Ukraine: An International, Humanitarian, Interagency and Interdisciplinary Approach for Disaster Victim Identification <u>Sven Benthau</u> <i>Germany</i></p>
15:30 - 15:45	<p>-O10-Substance Use During Covid-19: Update After Restrictions Rukiye Aslan, <u>Duygu Yeşim Ovat</u>, Şadiye Mıdık, Yusuf Ali Altunci, Serap Annette Akgür <i>Türkiye</i></p>
15:45 - 16:00	<p>-O11-Slovak Experiences with Monitoring of Drug-Related Deaths <u>Jozef Šidlo</u> <i>Slovakia</i></p>

16:00 - 16:15	<p>-O12-Determination of Solvents in Ballpoint Pens by Gas Chromatography Mass Spectrometry (GC-MS) <u>Eda Kiriş</u>, Dilek Salkım İşlek, Emel Hülya Yükseloğlu <i>Türkiye</i></p>
16:15 - 17:30	Break
17:30 - 18:00	<p>Keynote Speaker:</p> <p>Jason Payne-James Specialist in Forensic & Legal Medicine Ex- President - Faculty of Forensic Legal Medicine Royal College of Physicians</p> <p>“Types of Injury Classification Systems in Criminal and Civil Courts”</p>
18:00 - 19:30	<p>FORENSIC BIOLOGY-GENETICS SESSION</p> <p>Chair: Emel Hülya Yükseloğlu</p>
18:00 - 18:15	<p>-O13-Examination of Theses Made in The Field of Forensic Genetics Between 2000-2022 in Turkey <u>İlksen Sarı O</u>, Birgül Tüzün, Arda Akay, Abdullah Coşkun Yorulmaz, Melek Özlem Kulusayın Ozar <i>Türkiye</i></p>
18:15 - 18:30	<p>-O14-Determination of Blood Stains Exposed to Different Environmental Conditions Using Mirna Biomarkers Nilay Lerzan Dalkıran, <u>Nazlı Hölümen</u>, Ömer Karataş, Bahadır Ercan, Emel Hülya Yükseloğlu <i>Türkiye</i></p>

18:30 - 18:45	<p>-O15-Differentiation of Blood and Saliva Samples in Mixtures by MiRNA' s</p> <p>Remziye Atalay, <u>Nazlı Hölümen</u>, Ömer Karataş, Bahadır Ercan, Emel Hülya Yükseloğlu</p> <p><i>Türkiye</i></p>
18:45 - 19:00	<p>-O16-Determination of Demographic Characteristics and Allele Frequencies of Cases Identified in the I.U- C Forensic Molecular Genetics Laboratory Between 2012-2020</p> <p><u>Ömer Karataş</u>, Fatma Çavuş Yonar, Nazlı Hölümen, Faruk Aşıcıoğlu, Emel Hülya Yükseloğlu</p> <p><i>Türkiye</i></p>
19:00 - 19:15	<p>-O17-MicroRNAs with Not So Micro Effect on Personalized Treatment for Cocaine Use Disorder</p> <p><u>Meryem Ebedi</u>, Emel Hülya Yükseloğlu</p> <p><i>Türkiye</i></p>
19:15 - 19:30	<p>-O18-Expert Testimony in Forensic Genetics: A Case Report</p> <p><u>Gokce Karaman</u>, Sefa Kızıldağ, İsmail Özgür Can, Akca Toprak Ergonen</p> <p><i>Türkiye</i></p>

Friday, October 28, 2022

Venue: AAB College Prishtina

10:00 - 10:30	<p>Keynote Speaker:</p> <p>Isabel Riege Chair INTERPOL DVI Working Group Deputy Head of DVI Germany</p> <p>“The INTERPOL DVI Working Group and the Successfully Management of International DVI Operations”</p>
10:30 - 12:15	<p style="text-align: center;">CRIMINOLOGY SESSION</p> <p>Chair: Mensut Ademi</p>
10:30 - 10:45	<p>-O19-Holmstrom Syndrome and “Narcissist Wound” Andrei Scripcaru, Cristina Furnica, <u>Diana Gavril</u>, Calin Scripcaru <i>Romania</i></p>
10:45 - 11:00	<p>-O20-Social Reaction to the News of Political Assassinations in the Media <u>Özge Genç Sütü</u> <i>Türkiye</i></p>
11:00 – 11:15	<p>-O21-Parricide from a Medical-Legal Perspective in Romania <u>Isaila Oana-Maria</u> <i>Romania</i></p>
11:15 – 11:30	<p>-O22- Illegal Migration, Population Stratification and Health Care Service Ali Şefik Köprülü, <u>Asım Orçun Okur</u>, Sotirios Kalfoglou, Ersi Kalfoğlu, Haydar Sur <i>Türkiye</i></p>
11:30 - 11:45	<p>-O23-Effects of Covid-19 Pandemic on Domestic Violence in Romania <u>Madalina Maria Diac</u>, Codrin Lucasievici, Nona Girlescu, Andrei Scripcaru, Simona Irina Damian, Diana Bulgaru Iliescu <i>Romania</i></p>

11:45 - 12:00	<p>-O24-From Commercial DNA Testing to Family Reunion: How Reliable are the Genetic Ancestry Results?</p> <p><u>Gavril Petridis</u>, Şeyda Şebnem Özcan, Sotirios Kalfoglou, Ersi Kalfoğlu <i>Türkiye</i></p>
12:15 - 13:30	Lunch Break
13:30 - 14:00	<p>Keynote Speaker:</p> <p>Virginia Anne Lynch Certified Professional Instructor in Forensic Science Certified Sexual Assault Nurse Examiner Diplomate American Board Forensic Examiners <i>USA</i></p> <p>“Forensic Nursing Science: Essential Alliance in Health and Justice”</p>
14:00 - 15:45	FORENSIC NURSING SESSION
14:00 - 15:45	Chair: Nurcan Hamzaoğlu
14:00 - 14:15	<p>-O25-Research in The Field of Forensic Nursing in Turkey Over the Last Decade: Systematic Review</p> <p>Mustafa Volkan Düzgün, Yurdagül Erdem, Sevinç Polat, <u>Ayşe Gürol</u> <i>Türkiye</i></p>
14:15 - 14:30	<p>-O26-Sexual Offending: An exploration of Experiences and Meanings</p> <p><u>Victor G. Petreca</u> <i>United States of America</i></p>
14:30 - 14:45	<p>-O27-The Relevance of Forensic Nursing-Network in Law and Health System: The First Forensic Nursing Forum in Switzerland</p> <p><u>Valeria Kaegi</u> <i>Switzerland</i></p>
14:45 - 15:00	<p>-O28-The Sexual Assault Nurse Examiner: A Responsive Strategy to Global Sexual Violence</p> <p><u>Jamie Ferrell</u> <i>United States of America</i></p>

15:00 - 15:15	-O29-Forensic Nursing Science: The Practice of Virginity Testing <u>Venera Mehmeti</u> <i>Kosovo</i>
15:15 - 15:30	-O30-The Current Status of Forensic Nursing in Türkiye <u>Sevinç Polat</u> <i>Türkiye</i>
15:45 - 16:45	Break Poster Discussions <i>(For Face-to-Face Attendees)</i>
16:45 - 17:15	Keynote Speaker: Ashraf Mozayani Professor and Executive Director of Forensic Sciences Texas Southern University "Fentanyl - Toxicology - Facts"
17:15 - 19:00	GENERAL SESSION Chair: Sherry Fox
17:15 - 17:30	-O31-Identification Kits for Living and Dead Victims <u>Sven Benthous</u> <i>Germany</i>
17:30 - 17:45	-O32-A Geometric Morphometric Approach for Sex Estimation Based on Orbital Region of Human Skulls from Bosnian Population <u>Ajanović Zurifa</u> <i>Bosnia and Herzegovina</i>
17:45 - 18:00	-O33-Case Report of a Fatal Poisoning with a New Psychoactive Substance 3-MMC (3-methylmethcathinone) <u>Martin Mervic, Tomaž Zupanc, Andrej Fister</u> <i>Slovenia</i>
18:00 - 18:15	-O34-Urgent Testing in Postmortem Forensic Toxicology <u>Vasil N. Atanasov</u> <i>Bulgaria</i>
18:15 - 18:30	-O35-Gram-Negative Bacteria Could be Responsible for The Decay of Buried Body Parts <u>Branka Franicevic</u> <i>United Kingdom</i>

18:30 - 18:45	-O36-Tattoo Habits in Prisons in Turkey Ahmet Depreli, <u>İlkay Kalkanlı</u> , Mehmet Fatih Ünver Türkiye
18:45 - 19:00	-O37-Toxic Products Offered to Children <u>Muhmmet Fevzi Polat</u> <i>Türkiye</i>

Saturday, October 29, 2022

Venue: AAB College Prishtina

09:00 - 10:30	<p style="text-align: center;">Workshop HUMANITARIAN FORENSICS (In the memory of Prof. Dr. Mete Gülmen)</p> <ul style="list-style-type: none"> • Related Legislations and The International Approach <ul style="list-style-type: none"> ○ M. Elif Günçe Eskiköy ICRC Forensic Coordinator for Azerbaijan • Best Practices <ul style="list-style-type: none"> ○ Nermin Sarajlic Professor, Department of Forensic Medicine Medical School, University of Sarajevo • Missing Persons Found in Mass Graves <ul style="list-style-type: none"> ○ Naim Uka Lecturer of Forensic Medicine, AAB College, Prishtinë, Kosovo
10:30 - 10:45	Break
10:45 – 12:45	<p style="text-align: center;">Workshop FORENSIC ENTOMOLOGY</p> <ul style="list-style-type: none"> • Forensic Entomology • Insect Rearing and Identification <ul style="list-style-type: none"> ○ Halide Nihal Açıkgöz Forensic Biologist, Forensic Sciences Institute, Department of Forensic Biology, Ankara University, Türkiye • Crime Scene Investigation and Insect Evidence • Postmortem interval (PMI) using insects <ul style="list-style-type: none"> ○ Yanko Kolev Lecturer of Forensic Medicine, Medical University of Pleven, Bulgaria • Entomogenetics and MEGA X Application <ul style="list-style-type: none"> • Abdullah Zübeyir CEYLAN Lecturer, Beykent University, Istanbul, Türkiye • Entomotoxicology <ul style="list-style-type: none"> • Merve KÜÇÜKYETİM Forensic Sciences Institute, Ankara University, Ankara, Türkiye
12:45 – 13:45	Lunch Break

13:45 – 15:15	<p style="text-align: center;">Workshop</p> <p style="text-align: center;">SEXUAL ASSAULT FOR FORENSIC EXAMINERS-OPERATIONAL ISSUES</p> <ul style="list-style-type: none"> • Coordinated Team Approach <ul style="list-style-type: none"> ○ Sotirios Kalfoglou Lecturer of Criminology, Faculty of Medicine, Forensic Medicine Department, İstanbul Yeni Yüzyıl University • Victim-Cantered Care <ul style="list-style-type: none"> ○ Anna Razou Forensic Pathologist, General Hospital of Athens, Greece • Laboratory Analysis and Colposcopic Imaging Technics <ul style="list-style-type: none"> ○ Hakan KAR Professor, Mersin University Medical Faculty Department of Forensic Medicine • Drug-Facilitated Sexual Assault <ul style="list-style-type: none"> ○ Ashraf Mozayani Professor and Executive Director of Forensic Sciences at Texas Southern University • Pregnancy Risk Evaluation and Care <ul style="list-style-type: none"> ○ Meriç Karacan Professor of Gynecology in Faculty of Medicine, Researcher in Forensic Sciences Department, İstanbul Yeni Yüzyıl University, Türkiye
15:30 - 16:00	Meeting of the General Assembly of BAFS
16:00 - 16:30	Closing Ceremony

FORENSIC PATHOLOGY SESSION

-01-

ASPECTS OF FORENSIC EXAMINATIONS OF ALBANIAN VICTIMS AFTER THE END OF THE KOSOVA WAR OF 1999

***Prof. Dr. Bardhyl Cipi**¹, Prof. Dr. Naim Haliti², Dr. Admir Sinamati¹*

¹Dept. Forensic Medicine, Faculty of Medicine, University of Medicine, Tirana

²Institute of Forensic Medicine of Prishtina, Kosovo

After the end of the war in Kosovo in 1999, forensic examinations of Albanian victims began to be carried out, mainly by foreign teams, but a part of them also by two teams of forensic doctors from Albania assisted by Kosovar forensic doctors.

As it is known, forensic medicine is a science that is more involved than other disciplines in the events that occur in any period of time, having a close relationship with criminology (the science of the scientific study of criminal phenomena), where the latter receives data highly valued by forensic medicine.

Precisely, in such a broad perspective, are also analyzed the forensic data of the cases examined by us.

At the beginning of this study, the impressions of the situation in Kosovo after the war are given with pictures of the corpses killed by the Serbian army and paramilitaries, followed by the results of the examinations of many corpses or their remains by us during our stay there. Then some other forensic documents are analyzed, including the book: "Quai des ombres" (Paris 2012) by Professor Lecomte, director of the Medical Institute of Paris, in which, among other things, she shows her memories of the examinations she carried out, of the corpses of Kosovar victims immediately after the end of the Kosovo war.

From everything that was seen and examined by us, as well as from the analysis of other materials, the idea was reinforced that the tragic events that preceded the war in Kosovo can be considered as one of the most culminating points of the genocide murders to the Albanian people from its neighbors.

But in contrast to all the previous genocidal murders, accurately proven by the numerous forensic examinations of the Albanian victims, the Albanian people reacted more decisively and persistently by creating the KLA (Kosovo Liberation Army) that fought with the Serbian army and paramilitaries. On the other hand, these massacres were recognized and shocked the entire civilized world, especially the USA, which quickly intervened and freed Kosovo once and for all from the Serbian yoke.

From this presentation it is concluded that:

- Forensic medicine in its broadest sense constitutes a very important evidence for the detection of genocidal murders.
- In the recent genocide against the people of Kosovo, the forensic evidence, undoubtedly invalidates forensic arguments of Serbia in an irrefutable manner, the completely unimportant, often even false, according to which the Albanians were who have killed the Serbs.

Keywords: Kosovo, forensic evidence of genocide, Serbian genocide against Albanian of Kosovo, Kosovo war.

-02-

MORPHOLOGICAL CHANGES CAUSED BY HYPERTHERMIA - PILOT STUDY OF WISTAR RATS

***Emina Dervišević¹**, Nina Čamdžić², Suada Kuskunović-Vlahovljak², Muamer Dervišević³*

¹Department of Forensic Medicine, Faculty of Medicine, University of Sarajevo, Sarajevo Bosnia and Herzegovina

²Department of Pathology, Faculty of Medicine, University of Sarajevo, Sarajevo, Bosnia and Herzegovina

³Clinic for Lung Diseases "Podhrastovi", University Clinical Centre of Sarajevo, Sarajevo, Bosnia and Herzegovina

Introduction: Studies on biopsy material show dilatation of glomerular capillaries, bleeding into the interstitium and vascular path, in small and large vessels.

The aim of the pilot study was to observe the appearance and occurrence of morphological characteristics on organs that were exposed to long-term effects of hyperthermia.

Methods: A sample of 7 rats was exposed to a water temperature of 41 °C, which is defined in the literature as "heat stroke temperature", both sexes, weighing 250 to 300 g were used.

Tissue samples, obtained by dissection of rats, were fixed in 10% buffered neutral formalin, at room temperature, then incorporated into paraffin blocks, cut at 4-5 microns, mounted and stained with standard hematoxylin-eosin (HE) method. In order to prove/exclude lipid and glycogen accumulation in hepatocytes we did additional histochemical staining, using Sudan black and Periodic Acid Schiff (PAS) method, respectively. We obtained samples from kidney, liver, pancreas, spleen, lung and brain.

Results: Analyzing tissue samples of different organs obtained from seven Wistar rats, we gained insight into morphological changes caused by induced hyperthermia. All sampled organs showed congestion and some degree of oedema. The most prominent changes were observed in liver and lung samples. Tissue samples of the lung of all seven rats showed signs of acute bronchitis and bronchiolitis, together with signs of initial bronchopneumonia. We also noticed signs of focal acute emphysema as well as focal accumulations of foamy macrophages.

Conclusion: Our study suggests that changes in the vascular bed occur soon after hyperthermia and while some organs are more tolerant to heat stroke than others, most organs show similar changes consisting of capillary dilation, vascular pathway and interstitial extravasation, observed after 30 minutes at a temperature of 40.5 °C, with the most significant changes were observed in liver and lung samples.

-03-

SEQUELAE OF CHEMICAL BURNS. CASE PRESENTATION AND LITERATURE DATA

Silvia Spac¹, Gabriela Crăciun¹, Irina Manoilescu^{1,2}, Bianca Hanganu^{1,2}, Beatrice Ioan^{1,2}

¹Institute of Legal Medicine Iasi, Romania

²University of Medicine and Pharmacy "Grigore T. Popa" Iasi, Romania

Background: The widespread use of chemical substances in both professional and domestic environments has led to an increase in the incidence of chemical burns. Assaults using chemical substances are more common in developing countries, with the head and neck being the most targeted body regions. The scar sequelae caused by chemical burns are of increased severity in aesthetic and functional terms.

Material and methods: The authors present the case of a 47-year-old woman who, while walking along a street, was assaulted by an individual by throwing sulfuric acid at her.

Results: The sulfuric acid caused the victim fourth degree chemical burns in the cervico-facial region, anterior thoracic region, on the hands and forearms, approximately 15% of the body surface and corneo-conjunctival burns in both eyes, for which serial surgical interventions were performed. The burn injuries healed with mutilating retractile scarring, atrophy of both eyeballs and blindness. The victim was forensically examined approximately 11 years after the assault. The forensic examination concluded that the appearance and topography of the post-burn scars created severe and permanent aesthetic damage to the victim, and the atrophy of both eyeballs with loss of visual acuity left her physically disabled and severely functionally impaired.

Conclusions: Although chemical burns occur more frequently as a result of a domestic or occupational accident, there are cases where these substances are used criminally to disfigure, torture or kill a person. The victim of the assault is left with serious medical, psychological and social sequelae.

Keywords: chemical burns, sequelae, disfigurement, assault

-04-

THE EFFECT OF GENERAL PHYSICAL AND GENITAL EXAMINATIONS ON THE JUDICIAL PROCESS

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¹Forensic Medicine Department, Düzce University, Düzce, Türkiye

Background and aims: As the findings related to the genital examination depend on many variables, it can't be used alone as a negative diagnostic criterion for the presence of sexual act. The aim of this study is to draw attention to the necessity of a multidisciplinary evaluation model that includes detailed anamnesis, psychiatric and social evaluation in addition to physical findings in forensic medical examination.

Methods: Data from chart records of 134 children and adolescents who were referred to Düzce University, Faculty of Medicine, Department of Forensic Medicine for suspected child abuse between the years 2017 and 2019 were retrospectively evaluated.

Results: It was determined that 47 cases examined had genital penetration allegations and 3 of them didn't have their examinations due to lack of consent for the examination. It was observed that in 25 of the cases, no finding supporting the penetration claim was detected. Two of the cases were brought for examination within the first 24 hours after the event, 5 of them within the first 24-72 hours after the event. It was found that one of our cases stated that she had abortion 3 months before the examination, within the period after the sexual act, but no physical and laboratory findings could be reached. One of cases was 13 weeks pregnant.

Discussion - Conclusions: In the forensic evaluation process, it is absolute that no judgment can be made based on the victim's statement alone. Evaluating the duty of the forensic doctor appointed as an expert by the judicial authorities as purely physical and genital examination will cause difficulties in the decision-making process of the judicial authorities. In addition to the evaluation of the physical findings, an evaluation should be made in a holistic and standardized approach, including the definition of psychiatric findings.

Keywords: genital examination, sexual abuse, forensic medicine

-05-

EVALUATION OF ELEMENTS IN HUMAN DENTAL TISSUE IN TERMS OF DETERMINATION OF POSTMORTEM INTERVAL

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Objective: After death, physical and chemical changes occur in the human body due to the decay process and these changes are used in the estimation of the postmortem interval (PMI). Despite many methods used, there has not been a method yet that determines PMI exactly. Since the tooth is more protected than other tissues due to its anatomical localization, robust and isolated structure, it is a tissue that may be suitable for obtaining accurate and long-term results in the estimation of PMI. This study aims to examine the relationship between the element levels in the dental tissue and the postmortem process in a corpse whose exact time of death is unknown and in the open field and to evaluate its use in determining the time of death by evaluating the increase-decrease-changes.

Materials-Methods: For the study, the healthy and extracted third molar teeth of the patients who applied to the Tokat Gaziosmanpaşa University Faculty of Dentistry Oral and Maxillofacial Surgery Polyclinic were taken. A jaw-like plastic model with hard plaster inside the teeth was covered with animal striated muscle tissue and left to decay in the open air. The samples were divided into 6 groups, 10 samples in each group, at 0th hour after extraction (control group), 1st month, 3rd month, 6th month, 9th month, 12th month. At the end of the process, the teeth of 6 groups were subjected to shredding, grinding, and acid melting processes, and using the Inductively Coupled Plasma-Mass Spectrometer (ICP-MS) analysis method, the elements of Na, Mg, P, Ca, Fe, Mn, Co, Zn, Cd, Pb, Si measurements were made.

Results: In our study, it was determined that there were statistically significant changes in the Na, Mg, Fe, Co, Pb, Si elements in the tooth structure. It was determined that the increase in the Co element between the groups was regular and did not fluctuate in any group, while the Na element decreased regularly after the 1st month peak. For the Co and Na elements, 2 regression equations were created that can be used to predict the time of death. When the dental Co concentrations are calculated separately by the Co regression equation, the 0th hour group 1 month, the 1st month group 1.9 months, the 3rd month group 2.9 months, the 6th month group 4.8 months, the 9th month group 7.7 months, and the 12th month group was calculated as 13.2 months. In the Na equation, results were not obtained in the first 3 groups, while the 6th month group was 5 months, the 9th month group was 8.1 months, and the 12th month group was 12.5 months.

Conclusion: This work showed that postmortem tooth element concentration changes can be used to predict the time of death. As a result of experiments that will cover longer periods with more elements and be carried out in different environments, a great contribution will be made to the subject of estimation of time of death which is not clear yet.

Keywords: Forensic Medicine, Postmortem Interval, Element Analysis

-06-

A REVIEW ON POSTMORTEM COMPUTED TOMOGRAPHY (PMCT) IN COVID-19 DEATHS

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Background and aims: Postmortem computed tomography has become a leading method of postmortem imaging in the last decade. Imaging methods in forensic medicine are providing objective and detailed information of natural disease and trauma, which is a substantial contribution to diagnosis – in clinical forensic medicine and especially in forensic pathology and autopsy practice. It is recommended as a valuable addition to the autopsy, giving more information about small details and predicting further dissection in focused areas of the body. In contemporary era of pandemic of COVID-19, new questions and problems arise – how to make the final diagnosis in cases of suspected COVID-19 or complex factors leading to deaths. Autopsies are a rare option in situation of overwhelming number of deaths, insufficiency of equipped autopsy facilities and personnel. In trauma cases the autopsy is inevitable, but in hospital or sudden and unexpected deaths and involved SARS-COV-2 infection, alternative methods are welcome. Method of choice is the PMCT (and PMCTA), which gives an opportunity to confirm the diagnosis without autopsy and to prevent the invasive and more dangerous way to investigate death.

Methods: We performed a review of worldwide practice in PMCT and PMCT angiography in COVID-19 cases and the efficiency of this type of diagnostics.

Results: PMCT and PMCTA are the methods which proved to be a standard for postmortem diagnosis in various kinds of disease and trauma. In cases of COVID-19, these methods give sufficient imaging data to confirm typical changes in target organs of the infection and this way to avoid the autopsy in a high number of examinations performed.

Discussion - Conclusions: As of today, PMCT and PMCTA could be recommended as a standard and safe procedure for postmortem diagnosis of COVID-19 deaths, minimizing the number of autopsies and the level of possible contamination of the specialists involved.

Keywords: Forensic Medicine, postmortem computed tomography, PMCT, PMCTA, COVID-19

-07-

SEVERE STRESS DISORDER – MEDICO-LEGAL CONSEQUENCES

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The severe stress disorder of the human being is a complex psycho-social phenomenon which affects a large part of the global population. That is why we may consider that stress represent a habitual component of daily life in modern civilized societies.

Stress becomes in this way a natural phenomenon generated by external and internal triggers. But over a certain individual limit it may generate a variety of behavioral, organic and psychical symptoms. This symptoms may considerably reduce the capacity of work and social integration of the individual. That is why severe stress is considered “a global pandemy of our times” .

The purpose of this presentation is how to identify severe stress, how to manage it and finally how to keep it under control. Starting from several definitions of severe stress we analyzed the causes of the disease, its effects on human behavior and the efficient techniques of therapy.

As a conclusion we consider that the severe stress disorder should be carefully evaluated in the medico-legal psychiatric expertizes as a trigger factor for violence and especially suicide at young ages.

Keywords: stress, disorder, behavior, therapy

CRIMINALISTICS SESSION

-08-

LEARNING OUT OF THE BOX: FIRST TRAINING FACILITY IN EUROPE FOR DVI WITH HUMAN BODY DONATORS ETAF

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Background and aims: The resilience of society to disasters and terrorist attacks can be decisively strengthened by good preparation of all departments involved in the operation. The fact that almost no nationally limited disasters happen anymore and that often several nations are affected requires international standards (Interpol/Cepol/ICRC/ICMP/UN). Very often, international training is held using dummies or live actors. This approach limits the demonstration of all currently accepted scientific techniques significantly for identification. Furthermore, the dignified handling of a corpse can only be learned on a corpse and not on dummies alone.

Methods: Already in 1999, the network of forensic colleagues (now ETAF) started an international ongoing multicenter study on DVI case analysis in cooperation with the Institute De Recherche Criminelle de la Gendarmerie Nationale France.

As a result, errors and failures as well as standard operational procedures were carefully analyzed and developed into best practise guidelines. The results provide a benchmark of verifiable practical solutions, showing an improved operational procedure in DVI workflow. ETAF provides DVI hands on courses on human body donators. Together with neighbour countries training is based on international standards with interagency approach, adapted to the local needs. These are key for a successful disaster response the world is depending on in current times more than at any point in the last decade. Adapting the local demands as well as the accessible equipment at an early stage does not only make the forensic process transparent for the victims relatives but avoids failures and bottle necks in the DVI workflow itself. When disaster strikes, it is crucial to familiarize with ones own structures (manpower, experts, morgues, plassdata etc.) in order to optimize preparation by strenghtening not only the international but also the local and regional society by working as a team.

Results: ETAF is the first European Training Center for Disaster Victim Identification and Forensic Sciences and a registered non-profit NGO (gGmbH Ust-ID DE353718592) www.etaf-dvi.org

Keywords: DVI, body farm, forensic workflow, regional training

-09-

ADAPTING INTERNATIONAL FORENSIC WORKFLOW IN UKRAINE: AN INTERNATIONAL, HUMANITARIAN, INTERAGENCY AND INTERDISCIPLINARY APPROACH FOR DISASTER VICTIM IDENTIFICATION

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Background and aims: Large scale disasters call on the international community to adopt an international, interdisciplinary and interagency approach in order to pool synergies and guarantee a common workflow with best practices. The forensic focus should not only be on the deceased, but also and especially on surviving victims and missing persons. A transparent forensic process is not only the legal basis in criminal proceedings but also the basis for achieving a high level of acceptance for what is necessary among the victims' relatives. This strengthens social resilience.

Methods: After a request for support from the Ministry of Justice of Ukraine and the Institute of Forensic Science in Kyiv, the need for support was evaluated in a fact-finding mission on the ground in Ukraine. The focus was on the need to be trained and educated on international standards of Disaster Victim Identification.

Results: Forensic experts from 6 nations have developed a coordinated training for this purpose. The forensic workflow is the sum of internationally recognised standards and follows the guidelines of the European Network of Forensic Sciences Institutes ENFSI BMP SOC-01 ISO 17020/25 from November 2021.

Discussion - Conclusions: The participation of all governmental and non-governmental organisations involved in the forensic process and the best possible acceptance of the standard operational procedures used can significantly improve data management at an early stage and avoid errors. The basis for this is a widely accepted legal framework of all parties.

Keywords: DVI, Datamanagement, forensic workflow, Ukraine, regional training

SUBSTANCE USE DURING COVID-19: UPDATE AFTER RESTRICTIONS

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Background and aims: Covid-19 pandemic has affected the whole world in many ways. Citizens were required to remain at home, schools, restaurants, and non-essential businesses were forced to close, and large gatherings were prohibited. During the restriction period, studies were conducted on substance use. The aim of this study is to evaluate substance use in cases who come to the emergency department during the period after restrictions that the flow of life returns to a bit normal.

Method: A total of 241 cases who admitted to the Ege University Medicine Faculty Hospital, Department Emergency for several reasons and requested substance analysis between July and December 2021, the period after restrictions were evaluated. Amphetamine-type stimulants (ATS, amphetamine, methamphetamine, and 3,4-methylenedioxymethamphetamine (MDMA), benzodiazepine, buprenorphine, cannabis (THC-COOH), cocaine (benzoylecgonine), opiates and their metabolites in urine samples were analyzed in the Addiction Toxicology Laboratory. Data were evaluated using SPSS-25.

Results: 26.5% (n=100) of the cases were positive. Mean age of positive cases was 26.2± 8.3, 13% of these cases were under age 18 and 74% were male. The month with the highest number of admissions and positivity were October. While a single substance was detected in 51% of the positive cases, almost half of the cases had multiple substance use. Amphetamine was the most common single substance (19%) and also in under 18 age cases, followed by benzodiazepines (13%) and cannabis (12%). In multi-substance, the use of amphetamine+MDMA was predominant (13%). Opiate was detected in the 1-year-old patient, and cannabinoid, amphetamine, opiate, cocaine and benzodiazepine were detected in the 16-year-old patient. There was addiction history 51% of the cases and %43 of them had agitation.

Discussion-Conclusions: It is noteworthy that the use of ATSS increased after the restrictions as well as the restrictions period by replacing cannabis.

Keywords: Covid-19, Substance use analysis, Forensic toxicology

-011-

SLOVAK EXPERIENCES WITH MONITORING OF DRUG-RELATED DEATHS

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Background and aims: Drug abuse represents a serious health and social problem. Monitoring of drug-related deaths and mortality rates among drug users is one of the essential indicators of the seriousness of drug-related problem. The aim of the paper is to present the concept and results of monitoring of drug-related deaths in Slovakia.

Methods: The study included all those deceased who died in relation to drug abuse and were submitted to medico-legal autopsy and toxicological investigation in Slovakia within a period of the years 2004 - 2020. The obtained data were analyzed according to methodology of European Monitoring Centre for Drugs and Drug Addictions.

Results: There were reported 1744 cases in total, i.e. 2% of all autopsies. Illicit drugs were involved in 57% of cases. In the remaining 43%, the positivity was related to prescription drugs. Out of the total number of cases, 74% referred to males. More than 43% of cases were of those aged up to 34 years. Overdose of psychoactive substances caused death in 768 (44%) cases (direct deaths). In this group illicit drugs were detected in 52% of cases. In the indirect deaths grouping, illicit drugs were detected in 61% of cases. In the group of indirect deaths, death was most often caused by accident (39%), followed by suicides (38%) and disease causes (18%). Fatal poisonings number related to illicit drugs varied from 4 to 10 (average 6) per million inhabitants aged 15 – 64 years per year.

Discussion - Conclusions: The mortality rate related to illicit drugs overdoses in the European Union is estimated at 14.8 deaths per 1 million population aged 15 – 64 years. Low mortality rate related to illicit drugs ranks Slovakia among countries with the lowest death rate of overdosing with illicit drugs in Europe.

Keywords: monitoring of drug-related deaths, European Monitoring Centre for Drugs and Drug Addictions, illicit drugs, prescription drugs, autopsy

-012-

DETERMINATION OF SOLVENTS IN BALLPOINT PEN INK BY GAS CHROMATOGRAPHY MASS SPECTROMETRY (GC-MS)

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Background and aims: Forensic Document examination is a field that analyzes what interventions have been made on the documents that are the subject of a lawsuit and what they are. The most important question that the judicial system wants forensic document experts to answer is when the document was created. To answer this question, forensic document specialists have studied the changes in time of dyes, resins and solvents contained in ink over the years. They have tried to develop a several number of methods and procedure for detecting these changes. One of these methods is solvent analysis due to the aging of the ink. In this study, a method that allows analysis of solvents contained in blue ballpoint ink (phenoxyethanol (PE), phenoxyetoxyethanol (PEE), propylene glycol (PG) and etoxyethanol (EE)) with Gas Chromatography Mass Spectrometry (GC-MS) in forensic science laboratories where specific methods such as Thermal Desorber (TD) or Solid Phase Micro Extraction (SPME) are not available, has been develop and validated.

Methods: To begin with, the archive was created by same analyst using blue ballpoint pens and standart office paper, regularly every month to analyzed time-dependent change of solvents contained in ink. In this study, 10 different brands and models of blue ballpoint pens collected from market were used to create an archive. After method validation, 1 mm wide and 10 cm long sections were taken from each archive samples when it was first drawn and then every month. Taken samples were placed in 2 mL vials. Then as a internal standart Piperonyl Alcohol and 1 mL Dicloromethane (DCM) was added. Samples were placed in a water bath at 80C for an hour. After extraction, mixture solution was analyzed by GC-MS.

Results: As a result of analysis, at time $t=0$ PE and PEE were detected in all studied 10 ballpoint pens but PG was found in just one of them. On the other hand, EE was not found in any studied ballpoint pens. Therefore, aging curves of PG and EE were not drawn. RPA value was calculated by ratio of peak area of the analyte to peak area of the internal standard with data obtained from GC-MS analyze. Aging curves of PE and PEE were plotted as RPA against time. When aging curves of PE and PEE were examined, it has been determined that PE and PEE can be detected up to respectively 280 days and 230 days.

Discussion-Conclusion: The number and type of pen (gel pen, rollerball pen or different colors like black,red) should be increased for more comprehensice analyze. On the other hand, it should be examined how enviromental or storage conditions(temperature,moisture etc.) affect the agigng of ink. The method developed with this study allows, determination of period of creation time of 0-12 months old documents that were written with a blue ballpoint pen contain PE and PEE by using GC-MS.

Keywords: Questioned Document, Ink Aging, Forensic Science, Solvents, GC-MS

FORENSIC BIOLOGY-GENETICS SESSION

-O13-

EXAMINATION OF THESES MADE IN THE FIELD OF FORENSIC GENETICS BETWEEN 2000-2022 IN TURKEY

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Introduction and aim: Theses are among the most important outputs of postgraduate education given in universities in our country. They are important academic researches that fill a gap in the literature, develop methods or take existing methods one step further, according to the needs of the period.

The aim of this study is to contribute to postgraduate students and supervisors by examining medical specialization, doctoral and postgraduate theses in the field of forensic genetics in terms of publication year, titles of supervisors, postgraduate education level and subject distribution of studies

Material and method: In this study, 113 theses published in the field of "Forensic Genetics" between January 2000 and August 2022 were examined. The theses were accessed from the website of the Council of Higher Education National Thesis Center and the Turkish Document Delivery System.

Findings: Of the theses included in the study, 15.04% consists of specialty thesis in medicine, 31.85% doctoral thesis, 53.09% master's thesis. When they are examined according to the subjects, 35.29% of the specialization theses in medicine are studies on behavioral genetics by examining the polymorphisms in the coding gene regions, 25% of the doctoral theses examine the interaction of polymorphisms in the gene regions with toxic substances, 31.60% of master's theses consist of population genetics and identification studies on Short Tandem Repeat loci.

Conclusion: It was seen that most of the studies were on genetic identification. Particularly in master's theses, the intensity of studies with different types of DNA markers showing polymorphic features draws attention. The development of technology and the easier availability of resources for genetic analyzes have increased the number of theses in the field of forensic genetics over the years. With this increase, it was seen that qualified studies were carried out that carried the existing methods and analyzes one step forward.

Keywords: Forensic science, forensic genetics, postgraduate, theses, Turkey

-014-

DETERMINATION OF BLOOD STAINS EXPOSED TO DIFFERENT ENVIRONMENTAL CONDITIONS USING MIRNA BIOMARKERS

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In some forensic cases identification of blood may be impossible because of the degradation or insufficient amount of evidence. In this case, identification can be made through RNA because the RNA molecule is a more protected molecule compared to DNA. MicroRNAs are tissue specific biomarkers and have stability to environmental changes.

Aim: Determining degraded blood stains which exposed to different environmental conditions, by hsa-miR-451a and hsa-miR-203a-3p miRNA biomarkers.

Method: Blood samples were taken from 12 volunteers. 2 ml of each blood sample was dripped to denim fabric pieces and left to dry for 24 hours. Then, the examples were exposed to different environmental conditions; waiting in the refrigerator, soaking in water, soaking in bleach, burial in soil, keeping in a closed plastic bag, washing in a washing machine. Except for the bleach and washing machine samples, the other samples were kept for 45 days under the specified conditions. RNA isolation and cDNA synthesis were performed according to kit protocols. The snRNA U6 gene was used as a reference gene for quantitative analysis. The Delta Ct method (ΔCt) was used to quantify miRNA expression.

Results: Hsa-miR-203a-3p expression was not observed in any sample group. Hsa-miR-451a expression could not be obtained in sample groups kept in soil, lake water and sea water. In the samples kept in fully concentrated and 1/10 diluted bleach and in the sample groups washed in the washing machine at 60°C and 20°C, the hsa-miR-451a gene expressions were not found to be reliable because the chemicals in the environment may damage the genetic material. The expression of hsa-miR-451a was observed in the sample group kept at -20°C and +4°C and in a sealed bag.

Conclusion: Hsa-miR-451a may be useful for determining the blood in certain conditions while Hsa-miR-203a-3p cannot be used.

Keywords: miRNA, body fluid identification, forensic science

-015-

DIFFERENTIATION OF BLOOD AND SALIVA SAMPLES IN MIXTURES BY MIRNAS

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In criminal cases, biological samples collected from the crime scene are important evidences. Genetic biomarkers are used for making reliable inferences from body fluids. Resistant nature to environmental changes and tissue specificity of miRNAs are important features. Currently, their usability is being studied in distinct forensic topics. However, problematic mixture samples faced within sexual assault cases with multiple perpetrators, murder etc., have not yet been studied.

Aim: In this study, it was aimed to differentiate blood and saliva by using miRNA biomarkers (miR-203A-3p for saliva & miR-451A for blood) in the mixture samples.

Method: Blood and saliva samples were collected from 4 female and 4 male volunteers. Collected samples were prepared in four different groups (female blood-female saliva, male blood-male saliva, male blood-female saliva, female blood-male saliva) as mixtures with two donors (total 36 mixture samples). Samples with 1:1, 1:10, 1:20, 1:50, 1:100 dilutions were prepared for each group. The miR-451A and miR-203A-3p biomarker was chosen to show the presence of blood and saliva respectively. RNA isolation was done by using the miRNeasy Mini Kit. Complementary DNA was synthesized from RNAs with Taqman microRNA Reverse Transcription Kit. The U6 gene region was chosen as the reference gene and the analyzes were made by RT-PCR. Comparisons were calculated using the Δ Ct method.

Results: The presence of blood samples in the mixtures was determined at all dilutions by miR-451A (best expression level was observed in 1x1 dilution). When all groups were examined, it was observed that mixtures with male donors were expressed at a higher rate than other mixtures. The presence of saliva samples by miR-203A-3p was not observed in any mixtures.

Conclusion: miR-203A-3p biomarker is not suitable for showing the presence of saliva while miR-451A is a promising biomarker for determining the presence of blood.

Keywords: miRNA, Mix Samples, Blood, Saliva, Real Time PCR.

-O16-

**DETERMINATION OF DEMOGRAPHIC CHARACTERISTICS AND ALLELE
FREQUENCIES OF CASES IDENTIFIED IN THE I.U- C FORENSIC MOLECULAR
GENETICS LABORATORY BETWEEN 2012-2020**

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In forensic sciences, STR analyzes are used for identification purposes in detecting the connection between crime-victim and perpetrator in criminal events such as disappearance cases, disaster victims, genealogy studies etc. To obtain reliable results, the frequencies of the studied STR loci in the population should be known.

Purpose: The main purpose of this study was to determine the frequency of 15 STR loci obtained from biological samples taken from volunteers, both nationally and regionally. Another goal of ours was to increase the reliability of the 15 STR frequencies used in routine analyzes in forensic sciences by performing statistical studies with these values, and to update our genetic information of our population.

Method: In our study, DNA was obtained with QIAamp Mini kit from blood, bloodstain and oral swab samples taken from 1001 people representing all 7 regions of Turkey. Then, 15 STR loci were obtained by using the Identifiler kit in accordance with the manual. Arlequin, StraF and Poptree programs were used for statistical studies.

Results: Combined Power of Discrimination and Combined Probability of Exclusion values were calculated as 0.99999999999999996063 and 0.999999979, respectively. Using the Arlequin and StraF programs, the frequencies of the loci were determined both for the whole population and separately for the regions. Based on these frequencies, forensic statistical data such as discrimination power, exclusion power, typical paternity index, principal component analysis and phylogenetic tree plot were obtained. For the Turkish population, the highest discriminatory locus was D2S1338, and the lowest was TPOX. Alleles observed only in the Turkish population were detected.

Conclusion: Phylogenetic tree was drawn by determining genetic distances between 16 country and 7 regions of Turkey. For the first time, phylogenetic tree drawing was made between regions of Turkey. Differences and similarities were observed due to migrations.

Keywords: Population Genetics, DNA Analysis, Forensics, Statistics

-017-

MicroRNAs WITH NOT SO MICRO EFFECT ON PERSONALISED TREATMENT FOR COCAINE USE DISORDER

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Background and aims: Opioid use disorder (OUD) is a set of physical and psychological symptoms that encourage compulsive opioid search and consumption behaviours. It has been estimated that about 21.5 million people have used cocaine at least once in 2020, which represents the 0.4% of the global population in the age range of 15–64. Cocaine use disorder (CUD) is one of the most heritable psychiatric disorders and some of those genetic factors may be in the genes that mediate cocaine's effects conferring initial vulnerability to the establishment of drug-induced neuroadaptations. MicroRNAs (miRNAs) are small non-coding RNAs that post-transcriptionally regulate gene expression. MiRNAs are abundant in the central nervous system and play important roles in neuronal development, differentiation and plasticity. Recently, miRNAs recently been investigated in forensic medicine as indicators of various ailments in biological fluids. With this study, we aim to highlight the importance of miRNAs in forensic medicine in the context of risk group identification together with their potential as novel therapeutic targets for CUD.

Methods: For this study, literature search was conducted on studies done on the link between miRNAs and CUD in the last decade.

Results and Conclusion: Several studies have revealed an altered expression levels of miRNAs and their target genes in CUD. Some of these genes are involved in neural adaptation during the neuropathological process of drug addiction and withdrawal. Both human and animal studies have shown that some of these miRNAs are directly associated with BDNF (Brain-derived neurotropic factor) signaling pathways (miR-212), neurotransmitters including dopamine (miR-133b, miR-382) and glutamate (miR-181a, miR-124) systems. Several other miRNAs are found to be related with epigenetic modifications which including MeCP2 (miR-212). These studies will ultimately facilitate the development of new therapeutic strategies that target the post transcriptional mechanism with the aim of improving the treatment efficacy of drug addiction by focusing on the genetic vulnerability to CUD through miRNAs. Despite a growing number of studies on this topic more standardized studies are needed to reveal the link between miRNAs and CUD.

Keywords: miRNA, Cocaine, CUD, Gene expression, Personalised treatment

-018-

EXPERT TESTIMONY IN FORENSIC GENETICS: A CASE REPORT

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Background and aims: The presence of different alternatives (alleles) of genomic DNA in a single base pair position in normal individuals in societies is called polymorphism. The small allele sizes of STR loci, the ability to type in old and poorly preserved biological samples, the possibility of automation and multiple analysis, and the fact that they do not require expensive hardware have made these loci ideal genetic markers in forensic sciences. In our case report; different expert testimonies about results of genetic analysis about a homicide case was discussed and testifying in accordance with scientific standards was aimed.

Methods: 2 females found dead and at least 2 men YSTR DNA was obtained from genetic analysis of nail samples of one of these women. When YSTR DNA profiles of two suspicious men who are siblings were compared with nail sample results, 2 out of 16 loci are mismatched. When autosomal STR DNA profiles compared, 2 alleles are mismatched at 4 out of 15 loci of one suspect; and 2 alleles are mismatched at 5 out of 15 loci of other suspect.

Results: An expert testimony stated that there is a strong evidence that DNA profile obtained from finger nail samples belongs to these suspects. In our testimony we stated that in the analysis of Y STR and autosomal STR DNA profile together, the DNA profiles of the suspects and the loci obtained from finger nail did not exactly match.

Discussion - Conclusions: In order to identify with the STR DNA profile, all loci obtained must be exactly matched with the DNA compared. Therefore, it was concluded that the mismatch of 4 out of 15 STR loci is sufficient to say that it is mismatched in terms of DNA identification.

Keywords: Forensic Medicine, Forensic Sciences, Forensic Genetics

CRIMINOLOGY SESSION

-019-

HOLMSTROM SYNDROME AND “NARCISSIST WOUND”

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This paper intends to develop the connections between the Holmstrom Syndrome and the “narcissist wound” and medico-legal cases. The presentation begins with the definition of Holmstrom Syndrome as an acute posttraumatic stress disorder after rape which determines a complex of behavioural reactions. It starts with somatic and psychological disorders specific for an acute state of stress in a situation of life threatening.

In connection with the victimological context, we analyzed the “narcissist wound” as a childhood trauma generated by the lack of affection coming from parents or other relatives and which may affect the entire life of the individual. The victim has the conviction that everything she does is not good enough and she doesn’ t trust in her own capabilities. That is why the psychiatric and psychological therapy is compulsory considering that later on it may generate medico-legal effects on other persons.

As a conclusion, many scientists consider that the delinquent personality of the adult is developed on the matrix of childhood. And the best example is the personality disorder where most of the patients have family violence history or abuse of alcohol. A happy childhood doesn’ t guarantee a happy and successful life but makes it very probable.

Keywords: Holmstrom syndrome, narcissist, disorder

-O20-

SOCIAL REACTION TO THE NEWS OF POLITICAL ASSASSINATIONS IN THE MEDIA

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Background and aims: Studies on many factors that cause political assassinations or play a role in affecting society as a result of the assassination are very limited in the literature. The position and level of development of the media in a country are important in drawing attention to a political leader. In the literature, there are many studies carried out in the period after the assassination of political leaders or later; these studies emphasize the extent to which society was affected by the assassination, and they gave a very small share to the role of the media in constructing public opinion in the post-assassination period.

Methods: This study was carried out with the meta-synthesis method to evaluate the limited number of existing studies in the literature that measure the extent to which the media coverage of different political assassinations in the recent history affects the society.

Results: Political assassinations are often presented in the media with thematic frameworks in which the group of the perpetrator is also examined in depth. However, on the basis of some assassinations, it is seen that "episodic", that is, framing depending on the event, has also been made.

Discussion - Conclusions: It is clear that the framing of the assassination news presented to the public with both "thematic" and "episodic" framing affects the society in different dimensions. As it is known that this effect can occur in the form of "being isolated, showing severe stress reactions, loss of trust and belief, displaying hate and anger speech and behaviors towards the perpetrator/or the group alleged to be a member"; When it comes to political assassinations, just as in hate crime or disaster news, it becomes very important to process and frame the news with precision.

Keywords: political assassinations, media, news framing, crime reporting

-O21-

PARRICIDE FROM A MEDICAL-LEGAL PERSPECTIVE IN ROMANIA

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Introduction: From the multitude of homicide types, parricide, although rarely encountered, is one the most reprehensible in terms of the major psycho-social impact. The purpose of this paper is to present this phenomenon by analyzing the particularities of the aggressor (forensic psychiatry examination) and also the victim (forensic autopsy).

Material and Methods: We performed a retrospective study based on the forensic psychiatry reports in the case of imprisoned offenders who committed homicide, examined in the INML "Mina Minovici" Bucharest between 2016 and 2020, comparing parricide with other types of homicides.

Results: We found a total number of 194 cases, which were divided in two study groups depending on the victim: group 1- parent victim (PV), 37 cases (19.1%), and group 2- other victim (OV), 157 cases (80.9%). In both groups, the aggressors were mostly prisoners with no criminal records (92% PV, 79% OV). Aggressors who committed parricide had more often a psychiatric history (54% PV vs. 32% OV), acute psychotic disorder (24% PV vs 1% OV), and lacked decisional capacity while performing the act (25% PV vs 5% OV). All these differences were statistically significant. The differences regarding the sex of the victim, the offending object, and the injured anatomical region were not statistically significant.

Conclusions: Parricide represents a significant percentage of all homicides in Romania. Compared to OV, PV had more often a history of psychiatric disorders, an acute psychotic disorder at the time of the event, and lacked decisional capacity.

ILLEGAL MIGRATION, POPULATION STRATIFICATION AND HEALTH CARE SERVICE

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Background and aims: Population stratification due to illegal migration result in social variations that may be the cause for disparity, discrimination, oppression, and microaggressions. These behaviors in return may affect patients in health care institutions. The result generally is low morale, stress, isolation, and burnout which all may have a significant impact on the quality of care. Turkey has been a destination for migrants for centuries. Today, the country hosts a very large number of migrants because of the continuing conflicts in Middle East. 3,9 million have been registered and 3,6 million of those are Syrians that asked protection because of the ongoing problems in their country. Additionally, there is a large number of illegal refugees. This number of people create population diversity which is a new phenomenon (last 5 years) and it requires effective humanitarian management. This study aims to measure the degree of awareness related to the issue by the hospital management personnel and by physicians in hospitals in Istanbul Turkey. The data is expected to illuminate the path to greater equity and help organizations tailor solutions accordingly.

Method: We surveyed health care managers, medical directors, nurses, clinicians and patients about the current situation they experience. The respondents were asked about the extent of disparities in care delivery at their organization, the impact of disparities on patient care delivery, areas where disparities are most prevalent, programs and commitments to address disparities in care delivery, the impact of interpersonal racism on clinicians and staff at their organization and obstacles to improving health equity disparities at their organization.

Results: The results show that mainly doctors of various specialties are much more burned out by the stratification. Nurses follow and the rest of the personnel is not highly affected. But the most interesting outcome is that mainly the This shows that mainly these occupational groups that have one to one relationship with the patients are affected to an extend of change in behavior.

Conclusion: There is still much to learn as we continue to enable our organizations to make a meaningful impact in narrowing health disparities. As part of this process, we believe it is important to share our learnings and work together with others to identify what is both meaningful and measurable.

*This paper is partly taken from the PhD thesis published by Prof. Dr. A. Şefik Köprülü

Keywords: health care, illegal migration, population stratification

-023-

EFFECTS OF COVID-19 PANDEMIC ON DOMESTIC VIOLENCE IN ROMANIA

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Background and aims: According with Article 1 from United Nations Declaration on the Elimination of Violence against women from 1993, the domestic violence represents "any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life". So, violence against women is a major violation of human rights and thus becomes a public health problem. For the purposes of this law - article 3 from law 217/2003 based on Romanian law, domestic violence means any intentional inaction or action of physical, sexual, psychological, economic, social, spiritual or cyber violence, which occurs in the family or domestic environment or between spouses or former spouses, as well as between current or former partners, regardless of whether the aggressor lives or has lived with the victim. The present work wants to provide an image of the situation regarding domestic violence in the region of Moldova, Romania.

Methods: The authors conducted a study in the period 2018 – April 2022 of the cases that were the subject of domestic violence and which were presented for forensic examination in a county in the region of Moldova, Romania. We also conducted a comparison of the cases of domestic violence in the pre-Covid-19 period and the Covid-19 pandemic period.

Results: The results of the study initially showed a decrease in the number of cases in 2020 compared to previous years (2018, respectively 2019), and then in the first quarter of 2022 to see again an increase in the number of cases of domestic violence.

Discussion - Conclusions: Domestic violence is a considerable problem imposed by the Covid-19 epidemic in a global context. The isolation at home has led to constant contact between the aggressors and the victims, which has led to an increase in violence, but also to a decrease in reports.

Keywords: domestic violence, Covid-19 pandemic, trauma

-024-

FROM COMMERCIAL DNA TESTING TO FAMILY REUNION: HOW RELIABLE ARE THE GENETIC ANCESTRY RESULTS?

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Single nucleotide polymorphisms (SNPs) are large numbers of variations across a person's entire genome. If the SNPs of a person are known, they can be compared to similar SNPs in a testing database to provide an estimate of a person's ethnic background and or even genetic ancestry. Today the number of available data is enormous because it has been reported that 26 million people worldwide have undergone genetic ancestry testing commercially. The following case is an example of parentage search by the use of this database. The female subject was born in Istanbul in 1980. The biological mother abandoned her at the hospital. The baby girl was adopted by a family and they informed her about the adoption when she was 26. She started a search for her biological parents 20 years ago. After several ineffective tries, she decided to apply to a commercial race estimation institution. The result showed that her probable second-degree cousins were living in New Zealand. She contacted them and she found out that her probable mother is living in Albania. Under this new evidence she requested further DNA survey and she found a probable sister in Albania. She contacted her and reached her probable mother who initially rejected the maternity but she admitted later that she got pregnant when she was a law school student, came to Istanbul and she gave birth to a child. She also admitted that she left the baby girl and went back to her homeland. She never told the subject anything about her father, but the subject still tries to find him via DNA match. Genetic ancestry testing is offered by several companies and organizations. Most companies provide online forums and other services to allow people who have been tested to share and discuss their results with others, which may allow them to discover previously unknown relationships. On a larger scale, combined genetic ancestry test results from many people can be used by scientists too. There is a possibility for error or ambiguity in interpreting a person's genetic ancestry. Nonetheless, in cases like the above, we see concordance between self-reported and genetically estimated ancestry which is sometimes very useful.

Keywords: parentage search, SNPs, genetic ancestry

FORENSIC NURSING SESSION

-O25-

RESEARCH IN THE FIELD OF FORENSIC NURSING IN TURKEY OVER THE LAST DECADE: SYSTEMATIC REVIEW

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Background and aims: Forensic nursing, which dates to the 1990s in the world, has gained momentum in Turkey in the last ten years. With the developments in recent years, studies have also increased. For this reason, it is aimed to systematically review the studies on forensic nursing in Turkey in the last ten years.

Methods: A systematic review has been conducted according to the preferred reporting items guidelines for systematic review and meta-analyses (PRISMA). The study's data was obtained from research articles accessed by scanning the "TÜBİTAK Ulakbim DergiPark Open Access System" , "TR Index" , Higher Education Institution National Thesis Center, and Google Academic databases in Türkiye. The data has been collected to cover the last ten years using keywords and combinations of "forensic nursing" , "forensic science" and "nursing" .

Results: A total of 240 studies were reached with keywords from the relevant databases. First, duplicates were removed. Articles were then eliminated by title and summary. Ultimately, 51 articles remained. The full texts of these 51 articles were examined, 24 articles that did not fit the method and sample were excluded and 27 articles were included in the study. The sample size of the studies included in the systematic review varies between 38 and 620. The total number of samples is 5146. Most studies (n=6) were done in 2021. In most of the studies examined (n=14), the participants consisted of nurses and other health personnel. The other 12 studies were conducted on nursing students and one study was on children. 22 of the studies are descriptive, and only 5 studies are done in interventional methodology. The studies generally aim to determine the knowledge level of the participants about forensic nursing. Interventional studies are generally focused on the approach to forensic cases and collecting evidence.

Discussion - Conclusions: Forensic nursing is an area that still needs improvement in Turkey. Increasing the diversity of research and detailing interventional studies will contribute to the further development of Forensic Nursing in Türkiye. For forensic nursing to become widespread, it is recommended to add courses to the undergraduate curriculum, to support all nurses, especially nurses working in forensic units, with in-service training and to encourage them to obtain certificates.

Keywords: Forensic Nursing, Forensic Sciences, Nursing, Systematic Review, Türkiye

-026-

SEXUAL OFFENDING: AN EXPLORATION OF EXPERIENCES AND MEANINGS

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Background: Individuals with a criminal history face several barriers upon reentering society. For individuals with a history of sexual offenses, the challenges are even more aggravated. In many instances, society perceives individuals charged with a sex offense (ICSO) as “evil,” “monsters” and “the highest form of evil.” Additionally, upon reentry, ICSOs are subject to several sanctions that are uniquely directed towards those who have committed sexual crimes, such as civil commitments, housing and employment limitations and the Sex Offender Registry Board (SORB). While treatment specializing in sex offending is available and has been associated with reduced sex offending, issues associated with stigma, protracted or inhibited reintegration and overall recidivism are still common occurrences.

Method: This study was guided by Heidegger’s hermeneutic phenomenology philosophical principles, Max van Manen’s approach guided data collection and analysis. Only male adults (>18) were included in the study, and those who had a current “prisoner status” were excluded. An iterative process was used for data analysis. Data was coded and interpreted through a hermeneutic circle. To ensure rigor and trustworthiness, Lincoln and Guba’s criteria were used, which include credibility, confirmability, dependability, and transferability. Audit trails, triangulation and reflexivity were essential strategies.

Results: The study sample consisted of fourteen men, ranging in age from 23 to 68 years old (\bar{x} = 51.7 years; table 1). One participant identified his race/ethnicity as Asian American, while all other participants identified their race/ethnicity as white. Five of the participant were assigned a level 3 in the SORB, while four were assigned a level 1, three were assigned a level 2 and two were awaiting a level designation. The major themes identified were: (1) *Exposed secret leads to humiliation* (2) *Being considered a sex offender is living in fear of the unknown*, (3) *Stigma consumes the identity of the individual charged with a sexual offense* (4) *Reframing and “leveling” of the crime are coping strategies*; and (5) *The path towards healing and forgiveness is complex*. These themes represent different facets of the phenomenon of interest.

Conclusion: Through hermeneutic phenomenology, a more complete understanding of the meaning of being considered a ‘sex offender’ for the person reintegrating into society was formed. The data uncovered allowed for a conceptualization of the phenomenon, *The vexed question of accepting guilt while avoiding shame*. Future research should focus on longitudinally exploring the interplay between behavior and the process of shame and guilt over time. Moreover, future studies should test and verify the conceptualization.

-027-

THE RELEVANCE OF FORENSIC NURSING-NETWORK IN LAW AND HEALTH SYSTEM: THE FIRST FORENSIC NURSING FORUM IN SWITZERLAND

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Interfaces such as criminal justice and law enforcement authorities, health care providers, and counseling centers have an important role in preventing, combating and investigation of acts of violence. The regulated interface management is therefore one of the major challenges. Forensic Nurses can build a bridge between the legal and health care systems, particularly in the implementation of the Istanbul Convention.

The general demand for Forensic Nursing in Switzerland and Europe is increasingly growing. For this reason, the educational programs for nurses in the field of Forensic Nursing continues to be promoted, advanced and developed.

A sustainable anchoring of Forensic Nursing in the health and legal system requires a clearly defined role of Forensic Nurses as well as regulated institutional, political and legal structures and frameworks.

In order to sustainably establish an interactive and productive exchange between the involved authorities and health care providers, the first Forensic Nursing Forum in Switzerland took place in May 2022. For this purpose, an innovative Forensic Nursing development platform COMPETENCE LAB was created for the first time in Switzerland and also Europe-wide, with the aim of establishing sustainable strategies and solutions in the implementation of Forensic Nursing as an essential binding element between the health and legal systems.

The experiences, results, and long-term strategies in the implementation and anchoring of Forensic Nursing on and after the First Forensic Nursing Forum in Switzerland will be comprehensively illustrated.

-O28-

THE SEXUAL ASSAULT NURSE EXAMINER: A RESPONSIVE STRATEGY TO GLOBAL SEXUAL VIOLENCE

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Sexual violence and its associated trauma are pervasive through each society and remains a global public health issue. Adverse childhood experiences such as sexual assault have been linked to leading causes of adult morbidity and mortality. Reducing this trauma is critical to avoiding multiple negative health and socioeconomic outcomes in adulthood. The likelihood of restoration following sexual violence is increased for victims who have access to medical professionals skilled in trauma-informed care which has important implications for their future health and well-being.

Experience indicates that successful prosecutions of sexual crimes require the coordination and cooperation of both skilled healthcare practitioners and the criminal justice system. Strategies to improve evidence-based global standards of care for victims of all ages post-sexual assault necessitate specialized forensic nursing education to include pertinent knowledge of the law. The patients' history of sexual assault and a comprehensive assessment are the important predictors to assist with decisions of evidence recovery. Sexual Assault Nurse Examiners (SANE) are Registered Nurse health care providers qualified in the examination and evaluation of physical trauma with an emphasis on maximizing evidence recovery while minimizing emotional trauma with trauma-informed compassionate care modalities. Education of the SANE specialist in Adult and Pediatric populations optimally include both didactic and clinical training, combining observation and precepted examinations prior to caring for these patients. Each education modality focusing on the designated age group to build competency.

Best specimen recovery has inordinate significance in the criminal investigation of sexual violence. The SANE understands that the application of science and technology continues to enhance the implication of biomedical, trace, and physical evidence to unprecedented levels within the judicial domain. Sources of potential evidence are continually expanding with the advanced sensitivity of DNA testing. SANEs are specifically educated in the understanding of the evolution of DNA with saliva transfer or touch DNA in strangulation.³

Access to Sexual Assault Nurse Examiners facilitates improved evidence collection kit results for sexual assault patients.

The Sexual Assault Nurse Examiner serves as a clinical liaison to the criminal investigation and is available to testify in court when required. While clinical responsibilities center on competency for quality patient outcomes, the application of scientific technology involving electronic documentation and digital imaging advances clinical outcomes and operational efficiency.

-029-

FORENSIC NURSING SCIENCE: THE PRACTICE OF VIRGINITY TESTING

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Virginity checks are a category of sexual abuse and are ineffective. They have always been ineffective. Many researchers state that a broken hymen is not a reliable indicator that a female has been vaginally penetrated because the tearing of the hymen may have been the result of some other event. According to the World Health Organization Trusted Source (WHO), "There is no evidence that either method can prove whether a woman or girl has had vaginal intercourse or not." And recommends that this test should not be performed under any circumstances. This presentation will outline why virginity testing is ineffective and should not be performed for any reason by healthcare, legal or forensic professional. There are no physical examinations or tests that can reveal whether or not a person has previously experienced sexual intercourse. These examinations considered unethical, medically imprecise, and traumatizing. The fact that an intact hymen doesn't indicate whether someone has had penetrative vaginal sex hasn't kept the practice of virginity testing at bay. Enlightened countries are becoming aware that this is a violation of human rights. Virginity testing is the practice of trying to determine whether a person with a vagina has engaged in penetrative vaginal sex. It's usually done via a pelvic examination. Sometimes these exams involve the examiner visually inspecting the vagina for evidence of an intact hymen. Other times it involves inserting a finger into the vaginal canal to feel for changes in the vagina. Both of these tests are done under the medically inaccurate thought that you can "tell" if a person with a vagina has had penetrative sex by touching or looking at their genitals.

It has been a longstanding practice in Kosovo to examine females for medico legal purpose in sexual offences allegedly perpetrated against them, or at times to determine whether she is a 'virgin' just prior to or immediately after the marriage the husband to be. Then the examination was done by a technique described as 'rectal touchier/tushe'. This method was used until 2002 and has ended with the inclusion of the Forensic Nurse Examiner in cases of sexual violence where the work, approach and techniques in examining victims of sexual violence have been changed. This procedure is not only humiliating but methods can be torturous, mentally, physically, spiritually. Methods of the procedure vary. The method demonstrated is one previously used in some countries within the Balkan Region. Who the examiner is generally depends on where in the world you are, as well as who has requested the test. Forensic Nurses do not perform virginity checks regardless of the reason. Historically, there has been no law to protect women from this invasive procedure against their will. It has been associated with abusive behavior by the authorities and examiners. It is important to raise the awareness of changing times and changing laws Forensic nurse examiners do not provide these unethical, ineffective, traumatizing examinations and neither should any healthcare professional. In Republic of Kosovo in order to provide legal protection and in respect of human rights, especially of the female gender, to ensure the growth and compatibility of the legal framework with international human rights standards that prohibit forced virginity checks, the necessary changes have been made in this aspect, it is currently proposed to supplement/amend the Criminal Code where is determined that "virginity testing" represents a criminal offence and all those who will apply such methods and tests will be punished! Although Turkey has long been recognized as a progressive country and culture the Turkish Medical Association doctors who performed virginity testing, reported they were unaware that a woman's consent was required. In February 2002, Turkey issued a decree banning forced virginity testing. UN Human Rights, UN Women and WHO are committed to ending virginity testing and ensuring that the rights of all women and girls are upheld.

-030-

THE CURRENT STATUS OF FORENSIC NURSING IN TÜRKİYE

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There is no forensic medicine nurse in Türkiye with a legal job description. Evaluation and care of forensic cases are carried out by nurses who have not received special training in the field. This situation causes nurses to make mistakes in defining (recognizing) the case in forensic cases, overlook the findings that may have the quality of evidence, and make mistakes in collecting and keeping the evidence.

However, the increasing number of violence and forensic cases in our country as in the world today reveals the structuring, importance and necessity of forensic nursing.

The first forensic nursing undergraduate courses in Türkiye were given in Bakırköy Health School. Istanbul University Institute of Forensic Sciences started its first initiative on forensic nursing in 1995.

In 2004, the first "Forensic Nursing Unit" was established in Ankara University Faculty of Medicine, Department of Forensic Medicine in order to report cases that applied to the Forensic Medicine Department and to support the development of forensic nursing.

The first forensic nursing course in Turkey was opened in January 2004 with the contributions of the Forensic Scientists Association and Hacettepe University School of Nursing, and 30 trainees who attended the course from various provinces became Türkiye's first certified forensic nurse.

The first national congress in the field of Forensic Nursing in our country was held in Nevşehir Avanos in 2006. Since then, forensic nursing congresses have been held regularly every year. Later, four forensic nursing books were published.

As a result of studies and scientific activities in the field of forensic nursing in our country, interest in this field has increased and forensic nursing education has become widespread in Türkiye. Forensic nursing has been added as an elective course to the nursing undergraduate programs of various universities, and forensic nursing graduate programs have been opened in some universities. However, for the development of Forensic Nursing in Türkiye, Master's and Certificate Programs should be further expanded, and the working areas, roles and responsibilities of forensic nurses should be defined in the "Nursing Law and Regulation".

GENERAL SESSION

-031-

IDENTIFICATION KITS FOR LIVING AND DEAD VICTIMS

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Background and aims: The identification of living and dead victims of disasters and terrorist attacks is predicated on the unique unmistakable identification of both the missing person and the victim. This Unique File Number plays the key function in all data processing steps. If mistakes are made here, the samples and pieces of evidence can no longer be assigned, the chain of evidence is broken, missing persons are not found again and deceased persons are not identified.

Methods: To avoid double numbering and errors in the field, special kits were developed, which are presented and evaluated in the following. The identification kits meet the international standards for Disaster Victim Identification and fulfil the requirements of iso certification for crime scene work. (European Network of Forensic Sciences Institutes ENFSI BMP SOC-01 ISO 17020/25 from November 2021.) An integrated tracking system also allows real-time location of samples and victims at any time and any place. Data collection can be analogue or digital (app for Apple and Android). Concepts for mass graves are integrated as well as the identification of living persons and refugees.

Results: The use of pre-numbered identification kits can significantly reduce, if not eliminate, misnumbering errors. Life-time tracking enables a transparent forensic process and secures the chain of evidence. Thus, this research project is the logical implementation of the standard operational procedures for crime scene work required by ENFSI ISO certification and represents a complete quality management system for the forensic process.

Discussion - Conclusions: In addition to internationally binding standards and proved database systems for identification, the use of pre-numbered identification kits is the link to securely transport acquired data from the field to the databases. The use of identification kits and tracking capability for living persons is a significant advantage for family reunification and emergency medicine of survivors.

Keywords: Identification Kit, Living Victims, Data management, forensic workflow, Quality Management

-032-

A GEOMETRIC MORPHOMETRIC APPROACH FOR SEX ESTIMATION BASED ON ORBITAL REGION OF HUMAN SKULLS FROM BOSNIAN POPULATION

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Background and aims: Understanding the anatomy and morphological differences of the orbital region is of great importance in clinical practice, forensic medicine, and anthropology. The analysis of morphological differences of the orbital region has found application in the determination of gender in forensic medicine. Several different methods are used to determine sex based on the skeleton. The aims of this study was to analyse sex estimation of the orbital region on a sample of skulls from Bosnian population using a new methodology, geometric morphometry.

Methods: The research was conducted on three-dimensional models of a total 211 human adult skulls (139 males and 72 females) from Osteological Collection at the Medical Faculty of Sarajevo, after obtaining the approval of the Ethics Committee (Number 02-3-4-2377/18). Skulls of the tested sample was recorded using a laser scanner (DAVID SLS-2). We marked 12 landmarks on each model to analyse gender dimorphism. For marking landmarks we used program Landmark editor. After marking landmarks we used MorphoJ program for analysis morphological differences between male and female orbital regions.

Result: After implementation geometric morphometric analysis, the sex estimation was possible with 86.33% accuracy for males and with 88.89% for females based on the form (shape and size) of the orbital region. Size of the orbital region showed statistically significant effect on its shape. After excluding effect of the size, sex estimation based on shape of orbital region was possible with 82.01% accuracy for males and with 80.55% accuracy for females on the examined sample.

Discussion - Conclusions: Gender determination based on the orbital region was possible with more than 80% accuracy for both sexes, which is a high percentage of correct determination. Therefore, we recommend using the orbital region of the skull for sex estimation.

Keywords: Sex estimation, orbital region, geometric morphometric approach, three-dimensional models, human skull

-033-

CASE REPORT OF A FATAL POISONING WITH A NEW PSYCHOACTIVE SUBSTANCE 3-MMC (3-methylmethcathinone)

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In recent years there was an increase of new psychoactive substances or so-called designer drugs on the Slovenian market. Popularity of new drugs is due to low cost, ability to purchase them online and possibility to acquire new substances with actions similar to illegal drugs that have not yet been labeled as such.

Even though designer drugs are becoming increasingly popular in Slovenia we have so far detected only a few cases.

We report a case of fatal intoxication of 21-year-old man who was discovered lifeless after a night spent partying and was unsuccessfully reanimated. Toxicological analysis of autopsy specimen revealed the presence of 3-MMC (3-Methylmethcathinone), THC (Tetrahydrocannabinole) and ethanol in blood and urine.

Autopsy report concluded cause of death as fatal intoxication with a combination of 3-MMC, THC and ethanol.

-034-

URGENT TESTING IN POSTMORTEM FORENSIC TOXICOLOGY

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In the postmortem toxicology there are several cases in which an urgent testing is required:

- unstable drugs (as cocaine, heroin, atropine, etc.);
- "drug" formation (as GHB, "amphetamines");
- postmortem redistribution (antipsychotics, tricyclic antidepressants, methadone, etc.);
- when significant artificial changes in the concentration of the parent compound is early occurred (as alcohol, MetHb, HbCO).

The postmortem changes in the presence of different compounds and their concentration can be affected by different processes in the putrefying body (*in situ*) as well as in the sample (outside of the body, even at low temperature storage).

The aim of the comprehensive study is to summarize the cases when urgent testing is needed in the routine postmortem toxicology forensic practice.

The most important factors influencing the analytical result and different strategies to prevent changes in or to confirm the analytical result will be discussed (type of samples, stabilizers, storage temperature, alternative specimens).

Keywords: postmortem forensic toxicology, postmortem samples, post-mortem redistribution

-035-

GRAM-NEGATIVE BACTERIA COULD BE RESPONSIBLE FOR THE DECAY OF BURIED BODY PARTS

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Most previous experimental and retrospective case studies of buried remains were based on the decay of whole corpses, omitting the decay of individual body parts. However, a different decomposition model may be possible because putrefaction of single limbs is altered in the absence of necessary gastrointestinal organs responsible for bacterial action. Domestic pig (*Sus scrofa*) heads, legs and pork belly were used to examine the decay in buried microenvironment. Measurement of body mass loss was supported by a series of experiments that included: soil pH, the microbiological activity of soil bacteria, Viable Count, and Gram stain analysis in conditions of different temperatures and moisture content. The findings demonstrated that: 1) mostly Gram-negative bacteria were involved in the decay; 2) soil pH could have the potential to indicate smaller clandestine burials; 3) microbial decomposers were higher in numbers in higher temperature and soil moisture settings; 4) animal heads and feet decomposed at different rates. The results add to the current body of published work by providing a decomposition pattern specifically for dismembered body parts that has not been attempted before on large sample size. This is unique and offers a novel taphonomic research applicable to the decay of human dismemberments.

Keywords: *Sus scrofa*, gram-negative bacteria, burial, body parts, taphonomy

-036-

TATTOO HABITS IN PRISONS IN TURKEY

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Introduction: Although tattooing is prohibited in prisons, it is a habit seen in many countries. This habit has been mentioned in scientific studies conducted by criminologists, forensic medicine and psychiatrists. In this study, the practice of tattooing in prisons in Tokat will be mentioned as an example of tattooing in Turkish prisons.

Material And Method: Information obtained in interviews with people with prison tattoos sent to our Forensic Medicine Office in Tokat with a request for a forensic report approved to be used in scientific studies will be discussed in light of the literature. The amateur tattoo machine reported to be used in prison, various prison tattoo samples will be examined.

Results: In this study, we learned that prisoners tattooed to reflect their feelings, but some have acquired prison tattoos against their will, either by peer influence or by the pressure of the prison environment. Therefore, it has been understood that these tattoos have their own unique features and meanings. It was stated that a toy car engine or a shaver was used for the engine parts, and sewing needles that were reported to pierce the skin of more than one prisoner were used as needles, these needles were obtained from handicrafts in prisons, and dyestuffs were extracted from ballpoint pens.

Discussion And Conclusion: Prison is a closed environment with its own behavioural norms. Therefore, tattoos seen among prisoners have become a different culture. It is highly likely that the needles used by many prisoners pierce the skin and cause infectious infections by bleeding, and the substances used are also harmful to health. Taking measures by the competent authorities or making this habit possible with sterile materials will benefit the individual and society.

Keywords: prison, amateur tattoo, forensic science

-037-

TOXIC PRODUCTS OFFERED TO CHILDREN

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Toxic substances are found in many products sold to children and adults, especially food and drink. Exposure of children in developmental age to harmful chemicals may cause serious and permanent diseases in different organs of children in the future. These commercial products can be classified as food and beverages, educational materials and stationery, clothing products, cleaning materials, personal care products. Many food additives and preservatives that are consumed with pleasure by the guests in the children and adolescent group, but which are discussed in terms of health. Preservative food additives are used to prevent food spoilage caused by microorganisms such as bacteria, mold, yeast and fungi. It is stated by scientific research that additives, preservatives and also many colourings can cause discomfort such as allergies, asthma, ulcers, heartburn, eczema, and acne. It has been proven in many studies that these matters cause circulatory and nervous system disorders and hyperactivity disorder in children. It is also claimed that some of these substances may be responsible for the formation or progression of cancer in different organs. In particular, it is stated that it may be responsible for the increase in infections. In recent years, researches on microplastics have been intensified and it is stated that they have a health-threatening potential.

The use of synthetic fabrics in clothes and the use of dyes containing heavy metals also cause the negative situations mentioned above. Chemical substances in personal care products, cosmetics and cleaning products should be considered and their use should be controlled.

Keywords: Forensic, Tokicology, Children, Food additives, Preservatives

POSTER SESSION

-P1-

EXTENT OF DOMESTIC VIOLENCE IN THE REPUBLIC OF MOLDOVA

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Background and aims: Nowadays, domestic violence is one of the most common human rights violations and crimes committed all over the world. According to WHO (2013) 35% of women in a relationship or who used to be, have been subjected to physical or sexual violence perpetrated by their intimate partner during their lifetime. The Council of Europe reflects that about 45% of women have experienced some form of violence during their lifetime. The present study aims to show the current situation on domestic violence in the Republic of Moldova compared to the European Union countries.

Methods: EU and national information concerning domestic violence have been analyzed. Statistical data provided by the Ministry of Internal Affairs (MIA) and Centre of Forensic Medicine (CFM) for the last 5 years (2017-2021) have been considered.

Results: A recent survey conducted by the OSCE shows that 73% of women in the Republic of Moldova have experienced at least one form of violence perpetrated by intimate partners, the most common form of violence being psychological (71%), followed by physical one (33%). Based on the MIA data, there is a steady increase of reported cases from 10871 in 2017 to 14728 cases in 2021. According to the CFM, the number of physical domestic violence victims subjected to forensic medical investigations is 6425 cases in 2017, 4331 in 2018, 5328 in 2019, 4053 in 2020, and 3904 in 2021.

Discussion - Conclusions: The rate of domestic violence victims in the Republic of Moldova is much higher than the EU average. The number of medico-legally examined victims is lower than that of reported cases due to the professional competence of forensic medical investigations limited to the examination of only physically abused victims. Despite the increased number of reported domestic violence cases, this social phenomenon is still underreported in the Republic of Moldova.

Keywords: Domestic violence, Forensic medical investigation, Victims, Physical violence, Abuse

-P2-

CONGENITAL INJURIES AMNIOTIC BANDS SYNDROME

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Background and aims: Diagnosing Amniotic Band Syndrome, although it is rarely encountered, is a challenge of modern medicine combining several disciplines and especially of morphological echography, since its timely identification and diagnosis by professionals will enable taking appropriate measures and adequate treatment, preventing disabling complications.

Methods: There are two "theories" according to the literature that explain why it happens. One is the intrinsic or internal theory according to which the cause of amputations and deformities is the vascular endothelium (the inner layer of blood vessels) which disrupts blood circulation in the extremities or in the affected organs and the other theory is the extrinsic or external theory which is based on the mechanical blockage of blood circulation in the extremities due to being caught by the amniotic bands or the rings formed by the rupture of the membrane when the part of the body slides into the cavity between the two layers of membranes. The cascade of organic changes that occur after this event are essentially the lack of blood supply to the distal part, causing amputation or various deformities.

Results: First case: A citizen presented to give birth to her first child near a Hospital on 22.06.2016, born at term after a pregnancy of 39 weeks + 6 days, weighing 2600 grams, length 49 cm, cephalic presentation (head) with absence of the upper right side. The pregnancy was followed in accordance with the protocol with periodic ultrasound examinations (one in February, one in May and three in the last month) in which the normal development of the fetus with normal parameters of the upper and lower extremities is interpreted, moreover the examination of the last ultrasound is dated 20.06.2016 (two days before birth), and does not show any problems with the development of the sides or the absence of the right hand and forearm.

Second case: A citizen presented to give birth to her first child on 25.06.2016, born late after a 35-week pregnancy with diagnosis: Premature birth 35 weeks, cephalic. Rupture of amniotic membranes. Pathological amputation of 1/3 of the right forearm associated with the right hand. Umbilical cord short. Amniotic band? The pregnancy has been followed in accordance with the protocol with the ten most frequent ultrasound examinations in recent months, in which the normal development of the fetus is interpreted with normal parameters of the upper and lower extremities; moreover, the last ultrasound examination is dated 07.06.2016 and does not show any problem of the development of the sides nor the absence of the right hand and forearm.

Discussion - Conclusions: This material has at its heart the increased attention and care that medical personnel must show to the prevention of medical errors during clinical activity at the time of diagnosis, their consequences and patterns in order to prevent liability.

"A carelessly determined diagnosis, neglecting the collection of necessary or simply useful data, without using the procedures required by science, is a source of responsibility."

Keywords: Forensic Medicine, Forensic Sciences

-P3-

FINGERPRINTING FROM MUMMIFIED HANDS: LITERATURE REVIEW AND NEW METHODS

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Background and aims: After death, there are changes in the skin that make fingerprinting difficult. Taking fingerprints from mummies as a result of dehydration of tissues and organs also has a unique protocol. Mummified tissue becomes rigid and shrinks. Rehydration of the rigid and shriveled tissue is required before fingerprinting. Various methods are used to take fingerprints from a mummified body. The most common method is rehydration of the fingers with sodium carbonate solution followed by dusting and taking of fingerprints with lifting tape. This study aimed to explain "fingerprinting from mummified bodies and current methods" .

Literature Review: Recent articles on fingerprinting from mummies were searched. International journals were reviewed, and a detailed literature review was made.

Results: Unlike classical methods, successful results have been obtained with pineapple and papaya juice used for rehydration of finger. In cases where there is less shrinkage, the baby powder method has been the most beneficial method.

In Iwakami' s study, efficient marks were obtained from fingers using Sofner® and B (Na₂CO₃ 10 g, 95% ethanol 316 ml, distilled water 684 ml) solution. In Adrian's study, more efficient results were obtained with the D_{sol} solution than the W_{sol} solution was prepared as per Walker et al. Although the finger used in W_{sol} was sufficiently rehydrated, deep shrinkage caused the fingerprint to not be obtained efficiently.

According to Adrian, sodium carbonate softens the mummified tissue, but it couldn' t sufficiently plump the shrinking tissue. Acetic acid caused excessive swelling of the tissue, and the ridge detail was detrimentally affected by this.

Discussion - Conclusions: Identification of mummies is very difficult. Fingerprint identification is a preferred method as it is a fast, cheap and effective method. In this study, fingerprinting techniques from mummies that provide great convenience for forensic scientists, are explained and recent developments are discussed.

Keywords: Forensic Sciences, Fingerprints, Mummified, Identification, Fingerprinting

-P4-

FORENSIC APPROACH TO WOUND HEALING IN SPACE (MICROGRAVITY)

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Introduction: wound examination is one of the most important matters in forensic medicine. There are several pieces of research discussing how it is affected the organs and systems of the human under microgravity conditions in various branches of medicine. We think that it is time to discuss forensic medicine applications in new settings in the space age we live in. One of the most common complaints of astronauts in the NASA-Mir Orbital Space Program is skin related.

Method and material: We reviewed the changes in the microgravity conditions of the factors that may affect the formation of wound healing with the literature.

Results: reduced peripheral blood supply, reduced plasma volume, reduced skin thickness, increased TNF- α and IL-1 β levels, remodeling extracellular matrix, dermal atrophy, decreased elasticity of skin.

Discussion and Conclusion: reduced peripheral blood supply, reduced plasma volume, reduced skin thickness and dermal atrophy can lead to slowing the rate of healing of skin wounds. And this will change wound age estimation along with answers of whether it was caused before, at the time of, or after death; what amount of force was required or produce it; what degree of injury has resulted from it and whether it has influenced death or caused disability. Decreased elasticity of skin and remodeling extracellular matrix will require a different perspective from conventional approaches in estimating the type of crime weapon and the location of entry and exit of gunshot wounds. Forensic medicine looks like black holes in space and more research needs to be done to elucidate it.

Keywords: wound, microgravity, forensic

-P5-

ETHICAL DILEMMAS OF FORENSIC EXAMINATIONS OF PERSONALITY DISORDER

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Background and aims: The implementation of the four main ethical principles (respect for autonomy, beneficence (benefit to patients), non-maleficence (not to harm) and justice, in the field of forensic psychiatry becomes complex especially when it has to be applied in the analysis of persons with personality disorder who commit a crime. The dilemmas arise because these individuals manifest problematic and unacceptable behavior on the one hand, and on the other hand, in terms of criminal responsibility, they are usually criminally responsible. Sometimes this leads to conflicting forensic assessments by two psychiatrists, a situation that is confusing for the court. This paper attempts to analyze some of these dilemmas.

Methods: Two forensic cases were processed, of persons who committed two different crimes - robbery and domestic violence.

Results: The individual approach to each individual case and the acceptance of the influence of personality changes as crucial are the two main conclusions of this analysis.

Discussion - Conclusions: The main question is what is the most effective response to antisocial behavior: is punishment or medical treatment the most effective way of preventing future crimes and protecting society? Ethical aspects: the situation could be improved by including assessments and measures that will bring professionals closer to the most favorable outcome

Keywords: Forensic psychiatry, Personality disorder, Assessment

-P6-

COMPARISON OF SUICIDE RATES DURING THE COVID-19 PANDEMIC AND THE 10 YEARS PRIOR IN SPLIT-DALMATIA COUNTY

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Objectives: The aim of this study was to investigate and compare suicide rates during the COVID-19 pandemic and the 10 years prior in Split-Dalmatia County, Croatia by parameters like age groups, gender, place, cause of death and type of suicide.

Subjects and methods: Total of 482 cases of suicides in Split-Dalmatia county from January 1 st 2010 to December 31 st 2020.were analyzed and categorized by age groups, gender, place and cause of death.

Results: In Split Dalmatia County 482 suicides were reported from 2010 to 2020. The youngest person committing suicide was in the group from 10-14 years of age, the oldest person committing suicides was older than 85 years. There was no statistically significant difference in suicidal rates / 100,000 persons / per year between pre-COVID period and COVID-year. The incidence of suicides in males was 2,5 times higher than in females. There was no statistically significant difference in incidence of suicides in men between pre-COVID and COVID period as well as in women. There was no statistically significant difference of suicidal rates according to age groups between pre-COVID and COVID period, except for 25-29 age group (suicidal rate during the COVID period was 3,4 times higher than during pre-COVID period). Deaths caused by hanging and jumps from height were most often mechanisms of committing suicide. The suicidal rate caused by hanging and suffocation was 2,9 times higher in males than in females, equally represented in pre-COVID and COVID period.

Conclusion: The main difference in pre-COVID and COVID period in suicide incidence was in the age group 25-29, probably due to the fact that people in that age group are considered young enough to still go out as well as mature enough to start a family, both of which were impossible due to the lockdowns. We also shouldn't neglect the possibility of psychic diseases onset at that age group.

-P7-

FATAL PHENIBUT INTOXICATION: A CASE REPORT

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Phenibut (β -phenyl- γ -aminobutyric acid) is a psychoactive GABA analogue, advertised as a supplement that could be easily find on the internet. Its use can cause a variety of side effects, potentially very serious, including coma and even, although rarely, death. We present the case of a 17-year-old man who was brought to the Emergency Department under the suspicion of intoxication with unknow psychoactive substance. He was in altered mental status: severe agitated, disoriented, aggressive, with tachypnea, tachycardia and hyperthermia. In addition, the PCR test was positive on SARS-CoV-2 and he was admitted to the pediatric intensive care Covid unit. Multiple sedative medication, including haloperidol, was given, and, as he remained agitated, the physical restraint was required. He died one day later under the clinical picture of multiorgan failure and assuming malignant neuroleptic syndrome as a cause of death. It was later discovered that he had consumed phenibut which he had illegally purchased in the local gym and used from time to time with other exercisers. Gas chromatography and mass spectrometry analysis confirmed the presence of phenibut in serum and urine. The histological findings demonstrated acute cerebral and pulmonal oedema with pulmonal hemorrhage, typical for drug intoxication. This was the first case of fatal phenibut intoxication in Croatia and highlights the need for clinicians to be aware of new psychoactive substances (NPS) toxicity. It is worth mentioning that taking accurate histories are essential in making the correct diagnosis and proper treatment of patients in such cases. Although phenibut was prohibited in Croatia in 2019, this case confirms again the necessity of better legal control of such NPS that could be freely and easily bought through online retailers and distributed further. Moreover, educational efforts should be put to increased awareness especially among young population regarding harmful health effects and potentially fatal outcome in phenibut exposures.

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POST-MORTEM INVESTIGATION OF VISIBLE FACIAL TRAITS AS A PREDICTOR OF CARDIOVASCULAR DISEASES

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Background and aims: Cardiovascular disease is the leading cause of death worldwide. Many studies have explored potential new risk factors which could help in the early diagnosis and the management of this disease. Arcus cornea, xanthelasma and diagonal earlobe crease are visible facial traits that have been previously suggested to be associated with several cardiovascular diseases including atherosclerosis, ischaemic heart disease and myocardial infarction. The purpose of this study was to investigate the frequency of these three traits in the post-mortem settings and determine their possible correlation with death from cardiovascular causes.

Methods: An audit study was designed to investigate post-mortem cases in a coroner's area in London. Previous medical history and background data was collected from both hospital records and coroners' reports, whenever available.

The presence of arcus cornea, xanthelasma and earlobe creases were noted by visual inspection during post-mortem external examination. Then, a binary logistic regression model was used to analyse possible correlation between arcus cornea, xanthelasma, diagonal earlobe creases and cardiovascular disease. Using the same regression analysis, each potential risk factor was then evaluated against BMI, age, smoking and gender, in cardiovascular disease-related cause of death cases.

Results and Conclusion: 239 post-mortem cases were investigated during a 2- year period. Binary logistic regression analysis of arcus cornea, xanthelasma and diagonal earlobe crease showed a potential correlation with cardiovascular disease related deaths (p-value:0.001 and p-value:0.047, p-value:0.006 respectively). Further regression analysis of combination of these traits together with age, revealed that only arcus cornea (p-value:0.008) has a significant positive correlation with cardiac related deaths, therefore suggesting that this trait has a potential to become a predictive risk factor for cardiovascular disease.

Keywords: Arcus cornea, Xanthelasma, Diagonal Earlobe Crease, CVD, Post-Mortem

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THE ROLE OF MEDICO-LEGAL INVESTIGATION IN ESTABLISHING THE CIRCUMSTANCES OF PHYSICAL TORTURE

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Background and aims: Torture is one of the most serious violations of human rights, prohibited under any circumstances. Its prohibition has been stipulated in various international human rights treaties which protect people from violations of their physical and mental integrity. According to the General Prosecutor's Office from the Republic of Moldova, 12 criminal cases of torture were opened in 2021 out of 217 investigations carried out by the Centre of Forensic Medicine concerning people who claimed to be physically assaulted by public officials.

Methods: a case from the author's practice that shows the role of medico-legal investigation in establishing the mechanism of injury and proving the circumstances of physical torture is presented.

Results: The criminal case was started based on the art. 166¹ of the Criminal Code for torture. According to the prosecutor's order at the moment of the arrest of a young man he suffered bodily injuries. Although the victim stated he fell on his right arm, doubts regarding this circumstance arose during the criminal investigation and a medico-legal examination was ordered. Ecchymosis and post-traumatic edema at the level of the right cubital fossa and oblique intra-articular fracture of the coronoid apophysis of the right ulnar bone were found during the medico-legal investigation. In accordance with the scientific literature, such fractures are caused as a result of forced extension and excessive twisting of the limb in the elbow articulation. The injury infliction due to the victim's fall was excluded.

Discussion - Conclusions: In this case, the medico-legal investigation allowed the establishment of the injury infliction mechanism and excluded one of the investigation versions. Thus, it became possible to establish the circumstances of the criminal event and demonstrate the excessive application of force by the police and the act of torture.

Keywords: Medico-legal investigation, torture, trauma infliction mechanism, injuries

-P10-

CASE OF RETAINED GAUZE AFTER CAESAREAN SECTION LEADING TO PYOSALPINX AND REPRODUCTIVE DISABILITY

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Introduction: A convenient example of medical malpractice is forgetting a foreign object inside the patient's abdominal cavity. Retained foreign object could be a surgical tool, instrument, or material which is unintentionally left inside the body cavity after an operation. This could cause serious post-operative health complications which can be life-threatening, therefore, follow-up surgeries are generally necessary to remedy retained foreign bodies.

Case report: In 2012, a 14-year-old woman underwent an emergency low cervical caesarean section with no intraoperative complications established. Revision of the uterine cavity was performed manually and with a gauze. The uterus and abdominal wall were closed layer by layer. After a few days the patient and the newborn were dehospitalized in good clinical condition.

Months later, pain in the lower abdomen occurred so the patient repeatedly visited different specialists, who diagnosed her with acute salpingitis and oophoritis, and conservative treatment was undertaken.

Over the years, the infection has developed more and more. In 2018, in connection with prolonged menstrual bleeding and irregular menstruations, the patient was examined by an obstetrician-gynecologist, who palpated a tumor formation above the symphysis, assessed as a cyst.

In 2019, an operation was performed, and the presence of a foreign body was found – a gauze compress. Multiple adhesions obliterating the pelvis, bilateral purulent salpingitis, abdominal abscess and bladder fistula were established. Due to the severe inflammatory process from the foreign body in the pelvis, pyosalpings was developed and the fallopian tubes were removed. A reproductive disability was caused.

Discussion: During the surgical delivery, a gauze compress without a signal metal fiber was left by mistake in the operative field. Severe life-threatening complications have developed as a result of this forgotten foreign body in the abdominal cavity. The only treatment for a forgotten foreign body in the operative field is a follow-up operation. It was performed years later after developing a severe inflammatory process which caused the fallopian tubes to be removed. Because no gauzes with a metal fiber were used during the caesarean section, this may explain the misdiagnosis of the foreign body on the imaging examinations. Magnetic resonance imaging could only confirm the presence of forgotten foreign body, but it was not performed.

Conclusion: A gross violation of good surgical and midwifery practice was committed by the medical crew engaged with the Caesarean section performed in 2012. It is absolutely mandatory to count all the gauzes used before the procedure and before layered closure of the abdominal cavity. In this particular case the forgotten gauze compress in the operative field led to development of severe inflammatory processes with the removal of patient's fallopian tubes causing reproductive disability.

Keywords: medical malpractice, forensic medicine, Caesarean Section, foreign body, reproductive disability

-P11-

CASE OF FATAL GUNSHOT INJURY DUE TO MEDICAL MALPRACTICE

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Introduction: From a forensic medical perspective this case is an example of a series of improper actions and wrongful behaviors by the medical staff, engaged in the diagnosis and treatment of the patient.

Case report: A 60-year-old man following an alcohol abuse, finds a rifle on the street and by accident self shot himself in the abdomen and right hand. He goes back home and his sister calls the emergency services immediately. The emergency crew arrives without a doctor but consisting only of a nurse and a driver. Because it concerns a gunshot injury, the police authorities were also notified. The medical examination was carried out by the nurse. After a telephone consultation with a doctor on duty, she probes the gunshot wound and determines that the wound is superficial. The wound was treated, and the emergency crew has left the patient's home.

Due to non-response to the applied treatment, a second call for emergency followed, but it was rejected because of lack of available emergency crew. A couple of hours later, the patient's condition was getting worse so the police authorities arranged a transportation to a hospital. An urgent surgical treatment was undertaken. A laparotomy was performed, which revealed a blind gunshot wound from a small-caliber firearm weapon, penetrating the abdominal cavity and affecting the liver and the small intestine in three areas, with a development of total feculent peritonitis. A single lavage was performed and the abdominal cavity was closed.

The next day after hospitalization, a fatal outcome occurred from multiple organ failure as a result of total feculent peritonitis.

Discussion: With an autopsy performed the forensic medical specialists made the conclusion that the cause of death was acute cardiovascular and respiratory failure developed as a result of total peritonitis, leading to multiple organ failure and intoxication. The peritonitis is direct complication of the gunshot injury penetrating the small intestine in the areas and the liver. There is a causation between the accident and the cause of death.

Conclusion: Every blind gunshot wound in the abdomen area is a life-threatening condition that requires emergency medical attention until it is established if internal organs and blood vessels are affected or not. It is a significant mistake to probe a gunshot wound especially in non-hospital settings. A nurse was performed the examination but not a doctor. A patient with an emergency condition was not hospitalized for an active treatment on time. The medical standard for emergency medicine was violated. The problem with lack of medical specialists was issued. Omissions in relation to the surgical treatment performed were also established. Layered closure of the abdominal cavity should not be carried out in case of total feculent peritonitis, but the abdominal cavity should be left open for continued treatment.

Keywords: medical malpractice, autopsy, gunshot injury, acute abdomen, emergency medicine, forensic medicine, peritonitis, laparotomy

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A DECISIVE FINAL STEP BY CHARCOAL-BURNING- A CASE REPORT

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Introduction: Carbon monoxide is called the silent killer because it is an odourless, colorless and non-irritating gas. Charcoal burning suicide is one of the methods created with this gas and widely used in many countries (1). Suicide notes are one of the forensic arguments that provide information about the victim and contribute the determination of the cause and manner of death.

Case Report: A 44-years old man was found dead on 28th June in his home lying on the bathroom floor. At the scene:

- There was a warning note on the door that said "POISON GAS! -Don't enter without ventilation"
- Bathroom door closed and door edge sealed with duct tape
- There was a hair dryer plugged into the outlet, which is thought to have been used probably to ignite the charcoal.
- The ventilation in the bathroom was also covered with duct tape.

The content of the letter;

- He mentioned it as a painful and repeating process for the occlusion in the person's vein.
- He wrote that he had been thinking about suicide for one year, but postponed it so as not to upset his loved ones, that he was happy to be dying.
- There was guidance on official actions to be taken so that their relatives would not be held responsible for their current debts.
- There was a request for forgiveness from Allah.

Medical records show that the person was diagnosed with deep vein thrombosis about two years ago.

At the autopsy:

- Cherry red livor mortis on posterior and head
 - Pink-colored appearance in the lungs, heart and brain surfaces
- Anthracosis on the lung surface and sections
 - No injuries were found

Discussion and Conclusion: The contribution of suicide letters for illuminating judicial events is still a controversial issue (2). However, the suicide notes, which should be interpreted together with the suicide mechanisms found at the crime scene, can make significant contributions to the psychological autopsy process (3)

It is not always easy to clear the doubts that arise about the cases that have decided to keep silent through death. In these cases, notes left at the scene may reveal important findings that make it easier for us to understand the underlying causes of suicide, as well as give information about the determination and current mood of the person.

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SUICIDAL DEATH IN THE REPUBLIC OF MOLDOVA DURING 2009-2018 YEARS

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Background and aims: Public health surveillance is one of the main strategies of WHO, which is focused on monitoring, evaluation, prevention of all social phenomena, including suicide. Even if the suicidal phenomenon is researched for more than 100 years it remains a major public health problem, which requires systematic studies. Legal medicine remains one of the main data providers regarding suicidal death.

Methods: The study is based on the descriptive, analytical, and statistical research of 36173 cases of violent death, including 5654 suicides from 2009-2018 years, examined in the Center of Forensic Medicine from the Republic of Moldova.

Results: According to the analyzed data, violent death represents an average of 106.92 cases per 100 000 population aged 5 and above, which decreased in the investigated period from 130-138/100 000 to 81-84/100 000. This decrease was mostly due to accidents rate, but the suicide one kept the same level. The average rate of suicide was 16.63% of the total number of violent death. The lowest suicide rate was noticed in children and minors aged between 5 and 19 years (4,15%) and in the elderly aged over 65 years (11,82%). The highest rate of suicide was marked in adults aged 50-64 (34,38%). The suicide rate in middle-aged people is lower (20-34 years old – 20,36%; 35-49 years old – 29,29%). The suicide rate in males from rural areas was higher.

Conclusions: Despite the decreasing trend of suicide in the Republic of Moldova during the last 10 years, its rate is still higher than the global one. The suicide rate increases together with the person's age. Most vulnerable to commit suicide are 50-64 years old males from the rural area.

Keywords: Suicide, Suicidal death, Violent death

-P14-

FORENSIC SCIENCE AND POLICING IN FOCUS; AS A FURTHER EDUCATION AND TRANSDISCIPLINARY COURSE IN GERMANY

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Background and aims: The aim of this contribution, called TransLAB:Pristina, is to go beyond the formulation of requirements and to bring together fundamental, transformative research approaches (quantitative) and dialogical ones (qualitative) so that a model/concept can emerge that shapes forensic science in a new way. The Transdisciplinary Laboratory (TransLAB) is for the time being - since 2014 - a science model developed for the purpose of transformative sciences with methodological effects on a meta-level (*see <https://www.b-tu.de/fg-umweltrecht/translab-21st-century>*). These reflexive effects are arrangements of individual parts of science processes made from observations and experiences, at times of their different modes of emergence and impact. If the four-step TransLAB modification is applied carefully, processual effects emerge as manifestations of transdisciplinary procedures and ways of working. In the first step, Structure and Organisation, the TransLAB of Figure 5 holistically represents the working and effective space of knowledge in the scientific enterprise, but also beyond that, the influence of the practical field

Methods: The students were confronted with the following question during the TransLAB:Pristina-Workshop: "What work and life experience on the topic (research field) "Forensic Sciences" do you have?" The answers provided information about the "depth" of previous involvement and the specialist knowledge that has already been acquired. This comes from theoretical or practical experience from different sources, and is accordingly formed with different conciseness, resonances and varying motivational potential. These processual effects can now be represented in the model in Fig. as active or passive. The focus is on theoretical and practical emphases, but also on the structural and transformative "depth" through the presence of the respective persons, with regard to their positioning, within the model.

Results: As a result of the poster presentation, the reception of TransLAB:Pristina should encourage researchers to methodologically grasp a scientific overall view of the research and design field of "Forensic Sciences and Engineering". Specifically, these initially abstract challenges will be empirically contrasted with those of the university education system and, in particular, the study programme at the BTU Cottbus-Senftenberg.

Discussion - Conclusions: What will the scientific training of forensic sciences look like in the future and which disciplines should be methodically reunited with the practice for this purpose?

Keywords: Transdisziplinarität, Forensic Sciences and Engineering, Academic Program

-P15-

ACUTE CHLOROFORM INTOXICATION – A CASE REPORT

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Background and aims: Chloroform (trichloromethane, TCM) is a volatile organic compound from the group of alkyl halides. It is a heavy, colorless, nonflammable liquid with characteristic sweet odor. The main routes of human exposure to chloroform can be inhalation, ingestion or dermal contact. TCM is well absorbed and distributed in entire organism via blood circulation and preferentially in adipose tissues and in the brain due to its high lipophilicity. It is mainly metabolized in liver and eliminated. The toxic effects can be nausea, vomiting, headache, dizziness, drowsiness, and confusion. Exposure to high concentrations may cause convulsions, coma and death due to respiratory failure or cardiac arrhythmias. The aim of the present report is TCM analysis in different *postmortem* samples evidencing acute chloroform intoxication.

Methods: A 68-year-old man was found deceased in a garage by his wife. The investigation suspects a chloroform murder. During autopsy different specimens (cranial blood, femoral blood, vitreous humor, liver, brain, lung and adipose tissues) were collected in glass tubes and transport to the laboratory. Quantitative analysis of chloroform in all available specimens was performed by HS-GC-FID using internal standard and confirmation of analyte with GC-MS.

Results: Chloroform was presented in each *postmortem* samples. Fatal level of TCM was detected in cranial blood (40 mg/L), brain (78 mg/kg), liver (28 mg/kg) and lungs (24 mg/kg). In adipose tissue the concentration of analyte was below 1 mg/kg.

Discussion - Conclusions: An adequate sampling technique is necessary when highly volatile and lipophilic compound has to be tested. The concentration of TCM in almost all available specimens was fatal. There is no literature data for vitreous humor, but analyte was also present in it. These data indicate acute exogenous chloroform intoxication. The extremely low concentration in adipose tissue evidence that *postmortem* redistribution has not yet occurred. All that testify to a quick death due to chloroform poisoning.

Keywords: chloroform, acute intoxication, postmortem analysis