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Clinical Forensic Medicine

AB – 01

Risk factor analysis of offenders in child sexual abuse in Sri Lanka

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Abstract

Introduction: Though there was many research in Sri Lanka focused on studies on demographic aspects of child sexual abuse (CSA) victims, it is very hard to find studies done on perpetrators of CSA. This study will be a preliminary attempt to fill this gap in Sri Lanka. The objectives are to study the demographic data and the risk factors to become an offender of CSA.

Methodology: This is a case-control study, in which 117 convicted detainees of CSA, compared with 117 detainees of nonsexual offences (offender control), and 117 individuals from the community (non-offenders control).

Results: All were males, and the majority were in between 31 – 40 years. However, disclosed 119 sexual abuse incidents during our study, 31% of offenders were females. Among reported cases to the legal system of Sri Lanka, the majority (77%) of the offenders were extra-familial persons. The majority of the convicted offenders (56%) were unskilled labourers. We observed a higher prevalence of history of sexual abuse in their childhood among cases than in controls. In our study, we identified risk factors of CSA in western counties that were observed in Sri Lanka as well.

Conclusion: We identified similarities and some differences in the characteristics of the perpetrators of CSA in our study and studies conducted in other countries. These differences suggest cultural, socio-economic, and religious factors that are influencing the characteristics of offenders in CSA. However, we were unable to demonstrate a positive relationship between internalized behavioural factors due to technical limitations.

Keywords: Children, Perpetrator, Sexual violence

Keywords: Firearms, handguns, head injuries, medical issues, suicide, toxicology



AB – 02**Socio-Demographic Profiles and Medico-Legal Aspects of The Perpetrators of Intimate Partner Violence Who Presented to Teaching Hospital Kurunegala, Sri Lanka**

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Abstract

Introduction: Intimate partner violence (IPV) occurs all over the world and the highest prevalence rate is in Asia. It is important to understand the characteristics, background, and medico-legal significance of perpetrators in the planning of preventive measures.

Methodology: This prospective descriptive study was conducted based on the information from perpetrators of IPV who were presented to a tertiary care hospital.

Results: Of 325 subjects, the majority of them were male (97.2%) and 63% belonged to the age group of 36-55 years. Analyzing the age gap between victim and perpetrator, the majority (61%) had 1-5 years. 81% were older than the victims. A small proportion (2.8%) had achieved higher education and 78.4% had a married life of more than 5 years. Most of the subjects were self-employed (44%) and 59.4% belonged to the lower-middle-income group. This study revealed that 75.4% of the perpetrators abused alcohol or/and substance, and 11% of them had been diagnosed with a psychiatric illness. Furthermore, most of them (50.1%) had been exposed to abuse and 42.5% had witnessed IPV during their childhood. Almost all of the subjects (100%) committed physical violence. The common reasons for IPV were ill-treatment of spouse (38.1%), an adulterous relationship (32%), and 15.7 % due to financial issues. Most of the families were economically (71.3%) affected. Most of the perpetrators of IPV (60.0%) expected to negotiate with their intimate partners, while a significant number of them (22.4%) expected to have the legal procedure.

Conclusion: Families having low income and alcohol/substance abuse should be targeted to plan preventive programs at the community level.

Keywords: Gender-based violence, perpetrators of IPV, wife battering

AB – 03**Sexual Victimization of the Adolescent Female by a Romantic Partner, in Relation to the Age Gap Between the Couple: A Prospective Study**

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Abstract

Introduction: According to statistics 70 % of reported rape cases happened with the willingness of the female partner, which the law enforcement authorities have been charged as sexual offenses. This study evaluated the sexual victimization of such females by their partners in relation to the age gap between the couple.

Methodology: This is a descriptive study of 63 female victims of sexual offences aged 12 to 16 years, presented to National Hospital Kandy during a one-year period. The sample was divided into three groups according to the age gap between the victim and perpetrator (P1; 0 to 5.9 years, P2; 6 to 11.9 years & P3; 12 to 18 years)

Results: The age gap of the couples ranged from 1.8 to 17.7 years, with a mean of 9.5 years and 49% belonging to P2. The percentages of couples engaging in sexual relations with penile penetration were higher with the increasing age gap. 71% had willingly engaged in sexual activity in P1. Furthermore, 30% of the victims have consented to following intimidation in P3, but it was not observed in P1. This study revealed that within a month of courtship had led to sexual activity in 50% of females in P3 while it was 20% in P1. 11% in P3 had engaged in sexual activity on the first encounter, whereas, it had not occurred in P1.

Conclusion: Vulnerability to the sexual victimization of female adolescents by a partner is more prevalent with the increasing age gap and the “Romeo and Juliet law” can be applied to the Sri Lankan set up for purposes of having them as sexual offenders registries.

Keywords: Age gap, female adolescent, sexual victimization, statutory rape

AB – 04**Injuries Sustained in a Police Cell: Mimicking Torture**

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Abstract

Clinical forensic examination of the injured detainee is crucial for medico-legal interpretations and execution of justice for the detainee and the custodial officers. We report a case where the detainee presented with multiple injuries mimicking torture. A 52-year-old male was transferred to the tertiary care unit from a peripheral hospital with a history of a convulsion that occurred while in police custody. He was arrested and detained due to drunk driving, evidenced by a positive breathalyzer test. The victim had developed the convulsion while awaiting release on bail, 36 hours after arrest. Clinical forensic examination revealed multiple abrasions on the face with bilateral periorbital hematoma, sutured laceration on the upper lip with avulsed upper two incisors, and fracture of the sub-trochanteric area of the right femur. CT scan of the head showed an old, depressed skull fracture on the right frontoparietal area with an underlying old cerebral infarction, due to an accident that had occurred fifteen years ago. However, since then there had been no seizures until the current episode. The neurologist, psychiatrist, and emergency physician were of the opinion that the altered consciousness and seizure were due to alcohol withdrawal or post-traumatic seizure disorder. Finally, it was concluded that the sub-trochanteric femur fracture was a consequence of convulsion due to alcohol withdrawal or post-traumatic seizure disorder, though it is a rare finding. Conclusion: This case highlights the importance of clinical forensic examination in collaboration with other medical experts to eliminate important differential diagnoses like torture.

Keywords: Alcohol withdrawal, fracture of the femur, post-traumatic seizure, torture



AB – 05**Unexpected Maternal Death: A Case of Choking with Aspiration**

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Abstract

Choking is seen among all age groups, and it may be fatal. We report a case of maternal death due to choking and such a case has not been found in the literature. A 27-year-old female, on the second day of partum, developed sudden onset of breathlessness while sleeping on right lateral position and was pronounced dead on admission. She delivered her baby by vaginal route without having regional anesthesia. The deceased had a solid meal approximately one hour before and fed the baby too. Her antenatal and postnatal period of this and previous pregnancy and past medical history were unremarkable. An autopsy revealed a large amount of gastric content, undigested identifiable food materials present between the larynx and bifurcation of the trachea, and a lesser amount in bronchi and beyond the secondary division of bronchi. Microscopic examination of the lung revealed bronchioles filled with eosinophilic materials and a significant number of neutrophil infiltrations at the margin in bronchioles. All the alveoli were free from edema fluid and inflammatory cells. Some alveoli were expanded with broken septa. Other organs were normal including histology. Toxicology was negative. There was no evidence of connective tissue diseases, neurological conditions, or any other pathologies revealed in her medical history. The cause of death was stated as choking and aspiration of gastric contents. This case highlights that the progesterone-mediated relaxation of the lower esophageal sphincter and delayed gastric emptying during pregnancy can contribute to gastric content aspiration during the early post-partum period. It is recommended to educate mothers regarding the risk of aspiration at antenatal clinics at the community level.

Keywords: Aspiration, choking, maternal death, the post-partum period

AB – 06**A Victim with Combined Methods of Torture: A Case Report**

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Abstract

Torture is a universal phenomenon which had been practiced throughout the ages since ancient times. According to the chapter III: II of the Constitution of Sri Lanka “No person shall be subjected to torture, inhumane treatment, or cruel punishment” but with all strict and clear laws, it is being still practiced. A 33-years-old person was abducted and taken into an isolated building and was tortured for several hours by a group of unknown people. He was handcuffed, suspended by the wrists, and was repeatedly assaulted with batons. A bucket of ice water was thrown at him. The chili powder was sprayed into his eyes. There were contusions on both buttocks and thighs, including numerous tram line contusions, ligature marks around the wrists, and bilateral conjunctivitis. He complained of poor sleep, fear, anxiety, and nightmares. Several forms of torture have been applied to the victim. The ligature marks around the wrists indicated suspension with wrists and the pattern of numerous blunt force injuries indicated systematic beating. The victim was diagnosed with post-traumatic stress disorder which is a well-recognized sequela of torture. Bilateral chemical conjunctivitis is a complication of getting contacted with an irritant like chili powder. Delay in seeking medical care leads to healing of the injuries complicating the identification and the interpretation of the findings. The interpretation of the injuries is compatible with deliberately inflicted injuries and tallies with the history given by the victim.



Keywords: Physical violence, torture

AB – 07

Nonintegrated Chest Wall Following a Road Traffic Trauma Not Resulting in A Flail Chest

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Abstract

The definition of a flail chest is inconclusive in the literature. The most accepted definition is fractures of three or more consecutive ribs, with each rib fractured in two or more places or combined sternal and rib fractures capable of uncoupling a segment of a chest wall from its' surrounding chest wall. Multiple rib fractures can also produce a partially uncoupled segment on the chest wall where the condition is defined as a nonintegrated chest wall. A 57-year-old male pedestrian was knocked down by a motorcyclist and admitted to a General Hospital in a state with stable clinical parameters. Due to trauma, he sustained antero-lateral rib fractures on the right upper 8 ribs with the 6th and 7th ribs fracturing at two points. His vital parameters were monitored in the ward setting for 10 hours and no surgical interventions were required. He was discharged on the 5th day following the incident with an uneventful recovery. Nonintegrated chest wall following blunt chest trauma may or may not progress to a flail chest where the latter is mainly a clinical diagnosis. This clinical scenario highlights the importance of combining clinical and investigative findings when concluding the category of hurt.

Keywords: Flail chest, non-integrated chest wall, pedestrian, rib fractures, road traffic trauma

AB – 08

Stretch Laceration of the Penis Following an Assault

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Abstract

Lacerations/degloving injuries of the penis are serious presentations in surgical practice. The manner is mostly accidental but very rarely it may be due to an assault by the hand. It causes severe pain, psychological trauma, and aesthetic problems for the victim. A 62-year-old male alleged while he was working at his shop, a known person squeezed and pulled his genitalia. He was wearing a silk sarong with no underwear at that time. He presented with a laceration encircling the penile shaft and peeling off the superficial skin up to the gland penis. The lacerated skin was repositioned and sutured at the emergency unit. Later skin grafting was done following necrosis of the damaged skin flaps. Examinations revealed tenderness, oedema of the penis, sutured injury encircling the penis, and difficulty in walking. The patient also complained of difficulty in passing urine and feeling of embarrassment. The patient was reviewed on the 20th day and revealed the difficulty in walking with a broad gait due to oedema of the genitalia and a partially healed wound of the penis. He also complained of difficulty in passing urine, avoidance of sexual activities, and feeling embarrassed when facing others. As the patient was reviewed, it is clear that this injury has interfered with his major day-to-day pursuits. So, injury certainly can be categorized as grievous, under section 311 (i). This case highlights Stretch lacerations resembling degloving injury of the penis and categorization of hurt that came across in medico-legal practice

Keywords: Categorization of hurt, Degloving injuries, Stretch laceration



AB – 09**Non-United Old Fracture Causing a Dilemma In Categorization Of Hurt Following A Trauma**

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Abstract

Examination and categorization of injuries are routine clinical forensic practice. However, we may come across situations where the differentiation between grievous & non-grievous is complicated. According to the definition, non-united fractures are considered as fractures that persist for a minimum of nine months without signs of healing, and only 5-10% of fractures occurring daily get complicated by non-union. A 52-year-old female presented with a history of assault to the left forearm with a wooden pole followed by twisting. She had a past history of surgery to the left forearm following a road traffic accident 2 years back. According to BHT findings, there were soft tissue injuries to the left forearm including swelling & tenderness. On examination, a newly applied plaster of Paris cast was observed over the left forearm. An X-ray revealed a fracture of the ulna bone with abundant callus formation & a previously inserted internal fixator. It led to a dilemma about whether it is an old fracture or a superimposed new fracture. According to radiological & orthopedic opinions, it was a hypertrophic non-united fracture due to poor application of internal fixation. Non-union of a fracture could be hypertrophic, atrophic, or oligotrophic depending on the causation for non-union. So, the injury was categorized as non-grievous as this incident caused only soft tissue injury & did not initiate a new fracture. Plaster was applied by the surgical team as a precautionary measure for a temporary period of fewer than 21 days.

Keywords: Grievous, Hypertrophic, Non-grievous, Non-Union

AB – 10**Torture: Application of Extreme Multiple Methods Resulting Near-Death Experience**

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Abstract

Introduction: Torture, though is still being practiced in more than half of the countries, is an illegal maneuver and punishable offence. The present case highlights the different techniques of torture and the importance of accurate interpretation of injury and their timing. The victim was interrogated, kept blind folded with hand cuffs and deprived of water and food for two days. He was dragged along the cement floor and assaulted with blunt force all over the body including perineal area. His testicles were rubbed with gasoline filled polythene bag and pepper powder, and then trampled with a shoe. His head was forcefully submersed into a water basin several times. Further, he was verbally abused and had been subjected to mock execution with shot gun firearm. Finally, he has been subjected to short episodes of repeated controlled suspension through the neck with a coir rope that has passed through the roof-mounted railing wheel. The victim had experienced a diminution of consciousness at peak of constriction pressure on the neck. There were multiple scabbed abraded ligature marks of about one centimeter in width, on the left side and posterior aspect of the neck, and under the chin in addition to laceration of ankle joint, patterned abrasion on testicles together with multiple healing abrasions all over the body. The present case highlights the use of extreme methods of torture that endangers the victim's life. The clinical forensic physician should always be cautious while distinguishing self-inflicted injuries from those of deliberate nature.



Keywords: Physical abuse, torture

AB – 11

Expanding The Services for Children: Activation Of “Multidisciplinary Child Protection Committees” in the Community

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Abstract

Child abuse and neglect have been widespread over many generations. It is not only detrimental to the affected child but to families, societies, and culture as well. Although the exact prevalence of child abuse is not known in Sri Lanka, reported literature shows that it is a significant problem and the available statistical data on the prevalence of child abuse, is only the tip of an iceberg. The objective of this paper is to suggest the establishment and activation of “Multidisciplinary child protection committees” for the recognition of high-risk children and early detection of child abuse within the community. We suggest making utmost use of existing ‘praja’ committees consisting of twenty eminent members of the community, as first responders to recognize ‘high risk’ children within their community and to report to a central authority such as NCPA. Incorporating details of ‘high risk’ children into an electronic database would enhance easy reference and electronic data corroborated with the ‘1929’ child-line would give a better outcome. Confidentiality should be maintained at all times. ‘High-risk’ children and their families should be visited by the child rights protection officers on a regular basis and immediate action should be taken if any form of abuse is suspected. Schools attended by ‘high risk’ children and the ‘Gramaseva Niladhari’ should also be incorporated into these committees. Establishing “Multidisciplinary Child Protection Committees” in the community under the supervision of NCPA using existing facilities with the participation of multi-sectorial stakeholders will help in the early detection and community monitoring of high-risk children reducing child abuse.

Keywords: Child Protection Committees, first responders, ‘high risk’ children

AB – 12

Self-Inflicted Injuries in a Case of Child Sexual Abuse: Medico-Legal Challenges

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Abstract

Self-inflicted injury (SII) usually means deliberately hurting or mutilating oneself, with the intention of committing suicide, attempted suicide, and non-suicidal self-injury. We report a case of a 12-year-old girl with suspicious lesions and with allegations of sexual abuse. A 12-years-old girl presented with an alleged history of repeated sexual abuse by her stepfather and two of his friends after drugging her. On examination, multiple injuries, which are roughly oval in shape, at different stages of healing, involving the frontal aspect of the right forearm, dorsum of the right hand, right lower limb, and right foot, were noticed. She admitted these lesions as a consequence of drugs given to her in order to sedate herself prior to sexual activity. She had tears at 4 o’clock and 12 o’clock positions of the hymen. The possible emergence of personality disorder with post-traumatic stress disorder was the opinion of the psychiatrist. The Dermatologist opined that the lesions in the extremities are self-inflicted. Even



though the events described regarding sexual assault are dubious, with the presence of self-inflicted injuries and genital injuries, sexual harassment could be identified as the initiation of her self-mutilating behavior. Therefore, continuous psychological follow-up and monitoring were strongly recommended. This case highlights the importance of psychological assessment as evidential proof of a crime in addition to being an essential step in management.

Keywords: Child sexual abuse, personality disorder, psychological assessment, self-inflicted injuries

AB – 13

Injuries Sustained at an Alleged Prison Break: Is it Due to a Fall, Inmate Violence, or Torture?

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Abstract

Injuries of inmates in prisons make a considerable public interest and make it a burden to the authorities because it is not only a health issue but also an issue of fundamental rights. These injuries range from self-inflicted, and intentional to accidental. We report a case referred by the Human Rights Commission (HRC) of Sri Lanka after 11 days of the alleged incident of a prison break. A 27-year-old male arrested for being in possession of heroin was produced for clinical forensic examination on the 20th day of his imprisonment following a petition made to HRC on an alleged incident of prison break and torture. The examinee claims that he fell down a fleet of stairs with the impact of his hands in a clenched fist state while the wrists were flexed. He denies any torture. Examination revealed gross swelling and tenderness of both hands, with reduced movements of fingers. Healing abrasions on the base of the fingers of the right hand. Radiology revealed multiple closed transverse/oblique mid-shaft metacarpal bone fractures in both hands and one fracture at the base of the metacarpal bone. The injury was categorized as grievous under section 311 of the Sri Lankan penal code. Compatibility between the injury and history cannot be confirmed or excluded completely, as dynamic movements during an altercation can cause atypical injuries. Thorough comprehensive investigation and multidisciplinary management is a necessity in injuries of prison inmates irrespective of presentation since medico-legal assistance is vital to conclude or exclude possible 'torture' at the courts.

Keywords: Metacarpal fractures, multi-disciplinary management, prison break, torture

AB – 14

Persistent Vaginal Discharge in a Seven-Year-Old: Infection, Foreign Body, or Sexual Abuse?

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Abstract

A child presenting with vaginal discharge poses a diagnostic challenge. Intravaginal foreign bodies need to be considered in the differential diagnosis. Children may insert them out of curiosity or by accident. More importantly, it may be a sign of sexual abuse. Polyembolokoilamania – self-insertion of foreign objects in bodily orifices– is



more common in adults or adolescents. This may be a result of psychiatric disorders or unusual sexual practices. A seven-year-old girl presented with a foul-smelling, dark-colored vaginal discharge of three months duration. She did not have dysuria, urinary frequency, abdominal pain, or fever. However, a history of scratching her genital area with a 'nail' was given. She had been to three general practitioners and a consultant obstetrician and gynecologist previously and been prescribed antibiotics, which temporarily stopped the discharge. Genital examination revealed an intact hymen, which was crescentic in shape and had sharp margins. The hymenal opening was 5mm in transverse diameter. No injuries were seen in the posterior fourchette, labia, or anus. The vaginal rugae pattern was normal. Examination under anesthesia was carried out and removal of a flat-ended screw, measuring 20mm x 12mm was done. A vaginal discharge in childhood can pose diagnostic, therapeutic, and medico-legal dilemmas. Clinicians should consider foreign bodies in cases of persistent vaginal discharge, especially in young girls, which requires proper examination. A medico-legal referral is extremely important in all these cases as sexual abuse needs to be excluded.

Keywords: Child sexual abuse, clinical forensic examination, foreign body

AB – 15

Dog Bite and A Human Bite Sustained in the Same Individual

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Abstract

Dog bites are encountered frequently in forensic practice, and it can be an act of violence in a form of provocation if proven beyond the reasonable doubt in magistrate/high courts and can be challenged at district courts to obtain compensation. An adult male was admitted with a history of being bitten by a man and his dog. The victim had been bitten over the abdominal area by the assailant. A dog has bitten him over the left thigh. The person sustained an intermittent imprint abrasion, and it is semicircular and opposing and connecting each other. The semicircular arches are composed of relatively rectangular segments (furrows). This type of injury pattern is very common in human bite marks. Canines produce sharp deeper puncture lacerations when bitten by dogs. but not deep in humans because of the length difference of teeth. The injury over the left thigh has two deep puncture lacerations which are not seen in human bites as less prominent canines in humans when compared with dogs. The marks will not always show the full arch and the distortions produced by the elasticity and retractility of tissues, movement, and amount of contact can lead to misinterpretation. Inter-canine length is 3.1cm in abdominal bite and 3.8cm in bite over the thigh. Hence the abdominal injury is consistent with a human and thigh with a dog bite respectively. It is important to highlight the involvement of forensic odontology and photography for better results.

Keywords: Dog bite, human bite, inter-canine length

AB – 16

Sexual Abuse Forensic Examination in Male Child: Presentation, Pattern and The Prevalence of Injuries

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Abstract

Introduction: Childhood sexual abuse was an unacknowledged and rarely studied phenomenon until recently, but today it is a significant public health concern. Although there is a significant number of male victims, reliable data regarding the type, incidence, and prevalence of sexual abuse in a male child is lacking. The aim of this research



is to provide information about the presentation, patterns, and prevalence of injuries among the male children presenting after alleged sexual abuse, at a Teaching hospital in Sri Lanka.

Methodology: A retrospective descriptive study based on the medico-legal records of male child sexual abuse victims from 2014 to 2019. Data was collected using a Performa and analyzed using SPSS.

Results: Data was collected from 115 medico-legal records and 45% of children were between 12–18 years, and 61% lived with their parents. The commonest complaint was fondling (30%) followed by anal intercourse and intra-crural intercourse. Perpetrator was 97.4% of the time a male and 95% known to the victim. 63.5% of victims presented more than 1 week later. Repeated episodes occurred in 51%, commonly by the same perpetrator, and commonly in children living outside parental care. Most were threatened verbally. Anal injuries were detected only in 12.2% and were commonly associated with the complaint of anal intercourse. The commonest injury was an anal scar. The most common opinion expressed was allegations cannot be excluded.

Conclusion: The study provides insight into the common pattern of presentation of male child sexual abuse. Most of them presented late and injuries were absent so as experts, we have to be careful in expressing our opinion.

Keywords: Anal injuries, male child sexual abuse, opinion

AB – 17

Rare Clinical Presentation Following a Gunshot Injury to Head

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Abstract

Firearm injuries are known to cause multiple injury patterns due to their direct and indirect effects. Direct effects like penetrating injuries cause more fatal damage but some other indirect mechanisms also have been reported and studied from time to time. This is a case report which describes an indirect brain injury following a low-velocity missile impact by a micro pistol. Although a number of studies had been done in the recent past the actual mechanisms are still debatable. A 40- year-old previously healthy inmate from prison was admitted to the neurosurgical unit following a gunshot injury that occurred inside the prison. On admission the patient was stable and there was a perforated laceration on the scalp. CT scan of the brain revealed an acute subarachnoid haemorrhage on the right temporal region of the brain with the intact skull bone. Further neurological examination revealed left side palatal palsy. Police had recovered the offending weapon and stated it was a micro pistol that had low velocity. While explaining the above mechanism some theories like temporary cavity formation, ballistic pressure wave effect, and hydrostatic shock can be used but it needs more advanced theoretical explanations along with mathematical calculations used by ballistic experts. **Low-velocity** impacts by handgun bullets can give rise to remote (indirect) brain injuries. The underlying physiological and dynamics of injuries, in this case, cannot be explained.

Keywords: Indirect brain injury, micro pistol temporary cavity

AB – 18

A Case of Child Sexual Abuse Revealed by a Presence of a Vaginal Foreign Body

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Abstract

Clinical presentation with foreign bodies inside the vagina is rare and is a well-known presentation indicating sexual abuse. A child of 11 years was presented to the consultant gynecologist with urinary incontinence. Investigation revealed intra vaginal plastic foreign body, with vesico-vaginal fistula. As the clinical presentation was suspicious, the child was referred to the consultant JMO. Clinical forensic examination revealed a chronic history of sexual abuse by the brother and her stepfather with repeated vaginal penetration. She could not remember how a foreign body came to be inside her vagina. The foreign body victim suffered from urinary incontinence with poor quality of life requiring an indwelling catheter to maintain continence. Child sexual abuse can be present in many ways. Careful evaluation of an atypical clinical presentation with contributions from other clinical specialties can play a major role in revealing child sexual abuse.

Keywords: Child sexual abuse, foreign body, vagina

AB – 19

Vitriolage: Two Case Reports

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Abstract

Vitriolage, also known as an act of deliberate acid throwing or acid attacks, is a form of violent assault directed mainly at female victims. A 34-year-old male sustained brown colour uniform mainly first-degree and a few second-degree burns on the face, front of the neck, and front of the trunk. Irregular-shaped splash marks and vertically placed drip marks were seen on the front of the chest and abdomen. According to the eye surgeon's opinion, there were grade 4 burns and anterior segment ischemia in the right eye with a poor prognosis. Enucleation of the right eye was carried out later. His injuries were categorized as grievous under limbs b, f, and i of section 311 of the Penal Code. In the second case, the victim was a 28-year-old female inflicted with brown colour uniform first-degree burns on the face, front of the neck, front of the left upper arm, front of the trunk, and upper back. Irregular-shaped splash marks and vertically placed drip marks were found in front of the neck. According to the eye surgeon, no visual impairment was present. Injuries were categorized as grievous under limb f and i of section 311 of the Penal Code. In both instances, the injury pattern was found to be consistent with the given history. Identification of acid burn and analysis of distinctive burn patterns are very important to establish vitriolage. Such proper analysis will assist immensely in the legal process, where the deserved justice can be delivered to these victims.

Keywords: Acetic acid, blindness, burn, vitriolage

AB – 20

A Brutal Case of Intimate Partner Violence

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Abstract

In most societies, women are most likely to face violence at the hands of their male partners. The prevalence of intimate partner violence (IPV) experienced by women in Sri Lanka ranges from 20 to 72%. A 29-year-old female, received severe injuries inflicted by her husband, who verbally abused her followed by assault with fists and a club on her face, back, and limbs. The clinical forensic examination revealed multiple tram lines and diffuse contusions over the neck, chest, and lower limbs, and an ulnar fracture in her right forearm. Abrasions were noted over her neck and lower limbs. She was referred to the psychiatrist, where she was found to be mildly depressed, and to the orthopaedic surgeon for further management of her fractures. Her injuries were categorized as grievous under the limb's "g" and "i" of section 311 of the Penal Code. The severity of the injuries received by the victim, in this case, was very significant, and given the potentially serious physical and mental health consequences this can have, particularly for victims, there are compelling reasons why we need to identify these women as soon as possible. Identifying abused women in the community for intervention purposes is necessary as most victims prefer to suffer in silence rather than tell someone about it.

Keywords: Domestic violence prevention act, intimate partner violence, tram line contusion

AB – 21**Child Sexual Abuse in Matara District: A Retrospective Study**

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Abstract

Introduction: Child sexual abuse (CSA) is an important public health and social justice issue. The objective is to explain the nature and characteristics of people, place, time, and patterns of CSA with special reference to genital and extra genital injuries and to evaluate the association of different genital injuries with the alleged abuse.

Methodology: 70 females of CSA cases referred were analyzed.

Results: Majority (81%) were between 11 to 16 years. 75% were belonging to lower-middle socio-economic classes. 70% have "consented" to the act, though only 4% had the capacity to give consent. The majority of the offenders (64%) were between 19 to 30 years and 90% were known to the victim. The commonest type of abuse was vaginal intercourse (60%). 61% of the victims were examined after 72 hours of the alleged incident. Fifteen percent were pregnant at the time of presentation. Only 10% had extra-genital injuries, whereas 62% had anogenital injuries. Hymenal tears were the commonest genital injury present. Fimbriated hymen was the most commonest type of hymen (67%) followed by the annular type. All the victims with an annular hymen who complained of vaginal intercourse had hymenal tears (100%) whereas, with fimbriated hymen, only 70% had hymenal tears. Six o'clock was the commonest position for tears in annular type hymens (60%).

Conclusions: This data highlights the magnitude of juvenile sexual abuse in the Sri Lankan set up, especially by older known people. A different pattern of hymenal injuries was observed for different types of hymen and further studies should be carried out to get further information in this regard.

Keywords: Demographic profile, genital injuries, sexual abuse

AB – 22

Characteristics And Factors Associated with Injuries Sustained By Motorcycle Occupants

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Abstract

Introduction: It is estimated that motorcycle-related accidents account for nearly 40% of total road traffic accidents reported in Sri Lanka annually. The objective of this study was to investigate the characteristics of motorcycle accidents and to describe and compare injury patterns of the riders and pillion riders who were admitted to the Teaching Hospital Karapitiya during the study period.

Methodology: A cross-sectional retrospective study was conducted retrospectively on motorcycle occupants who were admitted from 1st January 2010 to 31st December 2014.

Results: The total number of motorcycle occupants was 812 with a male to female ratio of 5.9:1. Out of that, 68% (n=558) were riders and the remaining 32% (n=254) were pillion riders. The highest percentage (40%, n=323) of the victims were belonging to the age group of 21-30 years. Sixty-seven percent (n=540) of the accidents were reported during the time period of 06.00 to 18.00 hours. For both the rider (75%) and the pillion rider (56%), the lower extremity was the commonest site of injury. Forty percent of the population had lower limb fractures and 15% had upper limb fractures. The commonest bone to fracture was the tibia (12%). Fifty-four percent of the riders and 52% of the pillion riders had grievous injuries.

Conclusion: Injuries caused following motorcycle accidents constitute a significant health problem in Sri Lanka. The young adult males in their productive age group are the most vulnerable group. Injuries to extremities are the frequent sites of injury. Both the riders and the pillion riders were found to have similar injury patterns.

Keywords: Injury pattern, motorcycle accidents, risk factors

AB – 23

The Pattern of Workplace Injuries Among Patients Admitted to National Hospital of Sri Lanka (NHSL), National Eye Hospital (NEH), and National Dental Hospital (NDH) Colombo

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Abstract

Introduction: Injuries due to work-related accidents have increased globally resulting in disability or death of the employee. The available statistics related to workplace accidents do not indicate the actual number or epidemiology of workplace accidents in Sri Lanka.

Methodology: A prospective, descriptive study was conducted to determine the pattern of workplace injuries (WI) among patients admitted to NHSL, NEH, and NDH Colombo. Injured workmen, more than 18 years of age were included from August 2017 to September 2019.



Results: The study included 298 employees and the majority of the victims were males (89.3%). Of all, 79.2% were reported from the private sector. 26.5% (79) of cases were from the construction industry, followed by the manufacturing industry with a rate of 14.1% (42). Within all the types of industries, there was male predominance. The most common sources/causes of reported injury events were fall of persons/ fall from height, and machinery injuries in the current study. Abrasions, contusions/haematoma, and lacerations were the commonest injury types, while half of the participants had fractures. The most common body parts involved primarily were the upper extremities. There was a significant association between the injuries in the upper extremities and machinery injuries.

Conclusions: WIs were more common among the males in the study participants. The upper limbs were the commonest to get affected. Due to the limitations in the present study, we propose a multicenter study in SL to generalize the findings.

Keywords: Occupational trauma, workplace injuries

AB – 24

Nonunion Versus Fresh Fracture: Dilemma in Category of Hurt

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Abstract

Categorization of hurt is important as it guides to a truthful judgement by the courts. However, we may come across situations where the differentiation between grievous & non grievous is complicated. According to the definition non united fractures are considered as, fractures that persist for a minimum of nine months without signs of healing and only 5-10% of fractures occurring daily gets complicated by non-union. A 52-year-old female presented with a history of assault to left forearm with a wooden pole followed by twisting. She had a past history of surgery to the left forearm following a road traffic accident 2 years back. According to BHT findings there were soft tissue injuries of the left forearm including swelling & tenderness. On examination newly applied plaster of paris cast was observed over left forearm. X-ray revealed a fracture of the ulna bone with abundant callus formation with a previously inserted internal fixator. It led to a dilemma whether it is an old fracture or superimposed new fracture. According to radiological & orthopedic opinions it was a hypertrophic non united fracture due to poor application of internal fixation. So, the injury was categorized as non-grievous as this incident caused only soft tissue injury & did not cause a new fracture. Plaster was applied by the surgical team as a precautionary measure for a temporary period of less than 21 days. This case highlights the importance of seeking views of other medical specialties to formulate comprehensive injury interpretation in forensic practice.

Keywords: Hypertrophic Non-Union, grievous, non-grievous

AB – 25

Causes And Characteristics of Periorbital Contusions and Their Relationship with Intracranial Injuries Among Inward Patients in Two Tertiary Care Hospitals in Sri Lanka

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Abstract

Introduction: The aim of the study is to describe the characteristics of periorbital contusions (PC) and understand its relationship with associated injuries, especially with facial injuries and intracranial injuries.

Methodology: This retrospective study reviewed the medico-legal examination forms of patients with periorbital contusions due to trauma.

Results: A total number of 67 patients were included with 81% being male patients. The majority (63%) were adults and 8% had bilateral periorbital contusions. The commonest soft tissue injuries around the PCs were abrasions (70.9%) and 37.3% had fractures of the skull. The majority (88.0%) had fractures of facial bones followed by a vault and basal skull fractures. The majority of PC (45%) were blue in colour and only 7.6% were red. The red colour was observed only on PC for less than 24 hours. The main cause for PC was due to direct blows to the eye while the rest (45.3%) were due to indirect blows. A higher incidence of fracture of the head was observed in assaults (39.3%) and 42% were categorized as non-grievous and 3% were categorized as Fatal in the Ordinary Cause of Nature.

Conclusion: The commonest cause of the black eye in the study sample was the direct blow with a blunt force in assaults. The red colour was observed in PC of less than 24 hours duration. The PC had not caused major injuries to the eye but there was frequent involvement of facial bone fractures.

Keywords: Associated injuries, category of hurt, periorbital contusion, trauma

AB – 26

The Value of Radiology in Manual Strangulation: A Case Report

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Abstract

Surviving manual strangulation with minimal symptoms even in the presence of severe neck injuries is very rare. Such findings are forensically invaluable evidence in proving attempted manual strangulation. A healthy adult male presented with repeated episodes of vomiting a few hours following attempted manual strangulation. His vital signs were normal. Dyspnea & stridor was absent. An irregular-shaped abraded contusion was present over the laryngeal prominence. A “V” shaped patterned contusion was noted above the supra sternal notch. Petechial and subconjunctival hemorrhages were absent. Subcutaneous emphysema was present over the neck and upper chest. A CT scan revealed gas within the fascial planes of the neck, anterior chest wall, bilateral axilla, and posterior paraspinal muscles. The thyroid and cricoid cartilages and the hyoid bone were fractured into multiple fragments. The laryngeal vestibule and the upper part of the larynx were severely narrowed. He was treated conservatively and discharged a week later with no residual complications. The presence of extensive injuries to neck structures together with external injuries confirmed the application of significant pressure on the neck causing a threat to his life. The category of hurt, in this case, would be grievous: endangering life, as there were multiple bones and cartilage fractures as well as the presence of extensive subcutaneous emphysema with narrowing of the airways. Radiological studies are useful in a case such as this especially when it comes to the categorization of hurt and confirming the circumstances of assault from a mere accident.

Keywords: Manual strangulation, severe neck injuries, survival



AB – 27**Injury Pattern of Motorcycle Riders Admitted to Teaching Hospital Karapitiya, Sri Lanka**

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Abstract

Introduction: The number of fatalities and the disability due to motorcycle collisions is increasing globally and most of them are preventable tragedies. The objectives are to identify the characteristics of the crashes, risk factors, and the injury pattern of motorcycle riders.

Methodology: A descriptive prospective study was conducted on patients admitted to Teaching Hospital Karapitiya with a history of motorcycle crashes. Data on socio-demographic profile and different characteristics relevant to the driver, vehicle, environment, and road factors were collected and an analysis of injuries was performed.

Results: The injury pattern and the characteristics of the motorcycle riders, including 461 riders and 197 pillion riders were analyzed. There was a male predominance in both groups. Accidents among riders are more prevalent in the 20-34 age group. There is a bi-fold prevalence of the time of the incident, representing usual traffic peaks in the area. 10% of the drivers in our study did not possess a license and 24% of the riders were drunk at the time of the accidents. Injuries were commonly abrasions and lacerations and were prevalent in both extremities and head areas in both types of riders. Drivers are often encountered with severe injuries compared to the pillion riders with a significant difference.

Conclusion: Injuries to limbs and head were common in both types of riders. Drivers were at risk of sustaining more serious injuries than pillion riders in the study population. A continuous injury surveillance system and the enforcement of legal limit is recommended to minimize preventable incidents.

Keywords: Motorcyclist injuries, road traffic accidents

AB – 28**Self-Inflicted Injuries: Mimicking Torture**

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Abstract

Self-inflicted injuries to mimic torture are not an uncommon presentation. This is a case where the victim sustained injuries during custody and the victim alleged that those were due to torture. A 27-year-old male who was said to be involved in cyber-crime, was produced for clinical forensic examination after being interrogated for 72 hours. The victim stated that the group of police officers made multiple cut injuries on his body, using a razor blade, on several occasions during custody. There was no history of other forms of abuse including, verbal or psychological. The examination of the victim revealed fresh linear abrasions with hyperemic borders and tenderness, placed as multiple groups in the five anatomical areas. Abrasions on the anterior chest, abdomen, and left forearm were almost placed vertically and directed downward. Those on the posterior upper chest were placed obliquely and horizontally while curved laterally towards the right side was seen on the right loin. The victim was a right-handed person. The aging and causation of the injuries were inconsistent with the given history. Multiple, superficial,



grouped injuries only involving accessible sites sparing sensitive and vital areas, and curved towards the dominant hand were more towards self-infliction. Psychiatry opinion was normal. This case highlights the value of thorough clinical forensic examination to formulate an opinion which is essential to execute the justice.

Keywords: Custody, Medico-legal examination, Self-infliction, Torture

AB – 29

Evaluation Of Knowledge, Attitude and Practice Of Sri Lankan Traffic Police Officers Related To Examination Of Drunk Drivers, In Two Districts Of Sri Lanka

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Abstract

Introduction: Driving under the influence (DUI) of alcohol is one of the substantial predisposing factors for mishaps among road users. A traffic police officer will be the first authoritative personnel a drunk driver encounters in the legal system. The absence of accurate skills and knowledge of these officers impedes the structuring of legal procedures and may lead to a miscarriage of justice. The objective is to assess the knowledge, attitude, and practice of Sri Lankan traffic police in handling and managing an alleged case of driving under influence of alcohol.

Methodology: This was a descriptive cross-sectional study carried out on a sample of 384 traffic police officers attached to the districts of Colombo and Gampaha, through a questionnaire.

Results: Out of 384, only 75 police officers knew the correct preliminaries to perform before administering a breathalyzer test. 79.7% knew the correct instructions for using a breathalyzer, but only 3.4% knew the colour changes of the breathalyzer. A significantly poor attitude was observed among the police officers, regarding the importance of producing a drunk driver for medico-legal examination ($P = 0.001$) Significantly poor practice and attitude were observed in officers with longer service duration but no significant association was observed between ranks of officers and attitude and practice ($P = 0.199$).

Conclusions: The results of our study demonstrate that the knowledge attitude and practice in efficiently handling a case of DUI among traffic police officers is poor, even though all of them are engaged in DUI duties irrespective of their service duration. The need for continuous professional development programmes was highlighted.

Keywords: Attitude, examination of drunk drivers, knowledge, traffic police officers

AB – 30

Cranio-Cerebral Trauma Following Accidental Air Rifle Injury: A Case Report

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Abstract

The popularity of air rifles shows an increasing trend during the past decades. They are often used by the farming community as a weapon to scare animals, rather than as potentially lethal weapons. Regulations on the purchase and ownership of air rifles differ from country to country. According to the firearm ordinance of Sri Lanka, a license is not needed to possess an air rifle. Air rifle injuries are usually non-fatal, although fatal injuries have occasionally been reported. In this case report, we present a case of non-fatal craniocerebral trauma resulting from an accident involving an air rifle. A 7-year-old child accidentally triggered the air rifle, and his mother was injured. The pellet had entered through her left eyelid into the left eye, causing extensive scleral laceration with choroid and iris prolapse. The pellet had further pierced through the left orbit into the cranial cavity and travelled across, to the right occipital region causing frontal intracerebral hemorrhage, cerebral laceration, cerebral oedema, and pneumo-cranium. The victim was managed conservatively at a neuro-trauma unit with mild residual upper and lower limb weakness over the left side of the body. The public, especially the farming community should be advised that air rifles can be potentially lethal and may cause serious injuries and even death. It is advisable that air rifles should be regulated by the same laws that apply to firearms.

Keywords: Air rifle, head injury

AB – 31**Injury Pattern Among Victims Admitted to Tertiary Care of North Colombo Teaching Hospital Following Assault**

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Abstract

Introduction: Experts in forensic medicine are expected to make clarifications regarding the consistency of the injuries with the background information and to assess the severity and the nature of the bodily harm. The objective of this study is to describe the injury patterns and factors associated with injuries among victims of assaults and to evaluate the strengths and limitations of medico-legal opinion that can be made.

Methodology: A retrospective descriptive study based on medico-legal documents on victims admitted to a tertiary care hospital following the alleged assault.

Results: Out of 300 victims, the majority were between 21 to 30 years (24%) and males (78%). The reason for the assault in the majority was sudden provocation (27%) and blunt injuries were common (56%). Out of 81 victims of sudden provocation (32%) had injuries to the head. Similarly, out of 25% of victims of previous enmity (32%) had injuries to the head. Defense injuries were observed among 132. The presence of defense injuries was significantly associated with sharp force trauma ($P=0.002$). The category of hurt in the majority was non-grievous (75%). Out of 51 sharp force injuries (53%) and out of 169 blunt force injuries only 25% had serious injuries. There was a significant association of use of a sharp weapon with injury severity ($P=0.000$).

Conclusions: Sudden provocation was identified as the main underlying reason for assaults. Use of sharp weapons was significantly associated with serious injuries indicative of the intention of the assailant to harm. However, head was a target equally in sudden provocation as well as in previous enmity.

Keywords: Assault, blunt force, category of hurt, intention, sharp



AB – 32**Physically Abused Hyperactive Child**

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Abstract

Physical child abuse occurs all over the world due to various factors of the abuser and victim. A 7-year-old girl, who was living with her mother and step- father, was admitted to a peripheral hospital with a history of accidental burns. As there were multiple types of injuries at different stages of healing, she was referred to the Judicial Medical Officer. According to her, she was physically abused by her mother repeatedly during the last few months. She was assaulted with a cane, wood sticks, and wires without any reason. She was kept locked in a room for several hours and she was not given enough food for several days. Her mother burnt her lips with firewood a few days back and she was brought to the hospital only after she developed a fever. On examination, second-degree burns on lips, abrasions of different ages over forearms and dorsum of hands, and tram line contusions over lower limbs were seen. A skeletal survey revealed no fractures. A consultant psychiatrist diagnosed hyperactivity. After the case conference child was handed over to the probation care with a child psychiatry clinic follow-up. Assaults revealed in history are known punishment methods reported. Therefore, repeated punishments for a disobedient hyperactive child are one possibility in this type of case. Education of parents and identification of risk factors of victims and continuous supervision is necessary for further management and prevention of child abuse.

Keywords: Child abuse, physical violence**AB – 33****A Case of a Severe Form of Physical Child Abuse with Tooth Extraction, Ligature Strangulation, and Neglect**

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Abstract

Prevention of Child Abuse is recognized as an utmost concern of public health in almost all parts of the world. Physical child abuse is generally non-fatal and usually executed by beating, shaking, burning, and biting and very remotely by strangulation or stabbing, which may lead to a fatal outcome. A 9-year-old girl child was physically abused by beating, burning, ligature strangulation, extraction of teeth, and starvation over three months by her father and stepmother. She appeared emaciated, depressed, dehydrated, pale, and in pain and had difficulty walking without support. There were about 250 injuries at different stages of healing, located all over the body, including injuries indicative of ligature strangulation, burn, and pressure ulcers. The examination of respiratory, central nervous systems, and abdomen was unremarkable, except for a cardiac murmur. There was no history or clinical evidence of sexual abuse. A rib fracture and fracture of the radius were identified by radiological investigations. The findings are conclusive that the child has been neglected and subjected to severe physical and psychological abuse. Injuries are compatible with the history and timing have given by the child. This is one of the very rare cases where tooth extraction and ligature strangulation are employed as methods of physical child abuse.

Keywords: Child abuse, dental trauma, physical abuse

Forensic Pathology

AB – 34

A Female Body Recovered from Outdoor with Disfiguration of The Face: A Case Report

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Abstract

The artefacts due to animal attacks cause lesions that appear as superficial injuries like abrasions and contusions, or it may cause disfiguration and even mutilation of the body. We describe a case of an elderly female who was found outdoor with facial disfiguration. A 75- year- old apparently healthy female was found dead in her front courtyard. There were Weaver ants (*Oecophylla smaragdina/Dimiya*) completely covering the dead body. There was a Gaping laceration, perforated injury on the face with avulsion of the right eye. Numerous small abrasions like injuries with scalloped margins were on the face, neck and front upper chest. The internal examination revealed a diffuse subarachnoid haemorrhage extending to the base of the brain. Histology did not reveal any inflammatory reactions around the facial injuries, the brain showed a collection of blood in the subarachnoid space. The cause of death was concluded as spontaneous subarachnoid haemorrhage (SAH). The feeding actions of ants caused irregular scalloped areas of superficial skin loss or small punctate lesions on uncovered areas of the body which were observed on the deceased. The lacerations and avulsion of the eye may have been caused by birds like crows, with their long beaks. The postmortem nature was determined by considering the macroscopical and microscopical features of these lesions. The SAH could be spontaneous or following trauma but the collection of blood in the subarachnoid space of the base of the brain which was observed on the deceased is more likely due to natural diseases. Also, the absence of antemortem injuries was supportive of natural SAH. The postmortem injuries which mimic antemortem injuries should be considered during the autopsy.

Keywords: Ant bites, postmortem artifacts

AB – 35

Post-Mortem Microbiology in Sepsis-Related Fatalities: A Diagnostic Conundrum

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Abstract

Introduction: Post- mortem microbiology, a controversial topic in the field of forensic medicine, has through the years, gained much recognition, with its' importance being highlighted repeatedly in the literature. However, the key to obtaining maximum benefit of post-mortem microbiology necessitates identification of deficiencies, adhering to standard guidelines, and collaboration of other resources. Immaculate techniques abiding by universal guidelines, with regard to sample collection, storage, and transportation, should be employed to minimize false-positive results. Unlike ante- mortem cultures, multiple factors challenge the accuracy of post-mortem microbiology, namely, post-mortem translocation, agonal spread, and contamination. A healthy, young female with abdominal pain, diarrhea and fever for three days was managed at the intensive care unit of Teaching Hospital, Peradeniya as sepsis with organ dysfunction, but died the following day and a post-mortem examination was



conducted. Ante- mortem microbiology sampling was not done. The histopathological finding was also consistent with the antemortem diagnosis. Post- mortem blood culture isolated *Enterococcus* spp., whereas, splenic and lung tissue cultures and viral studies were negative, posing a diagnostic conundrum for the forensic pathologist. The cause of death was given as multi-organ dysfunction due to septicemia due to possible *Enterococcal* infection. However, culturing only one blood sample instead of two, which is the current recommendation, is a limitation. In sepsis-related fatalities, especially in the absence of antemortem investigations, post-mortem microbiology serves as an important tool for determining the cause of death, however, should be interpreted cautiously and meticulously.

Keywords: Microbiology, post-mortem diagnosis, sepsis

AB – 36

Elderly Abuse and Neglect: A Case Report

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Abstract

Elderly abuse is a rising problem in Sri Lanka where the total elderly population represents 12.5% of the population. This case illustrates a death that occurred in an elderly home with different injuries which were highly suggestive of physical abuse. A 79-year- old unmarried female who was diagnosed with hypertension, diabetes, and psychiatric disorder, was found dead at an elderly home. She had walked with assistance and the caregiver revealed that she had recurrent falls sustaining several injuries during the last three months. She developed difficulty in breathing for two days, but no medical attention was given and found dead on her bed. The autopsy revealed multiple injuries consisting of abrasions, contusions, and lacerations with different stages of healing. Wide elongated grooved abrasions encircling each wrist consistent with ligature marks, multiple tramline contusions, and infected wounds with blisters filled with pus were observed. Musculoskeletal dissection revealed multiple subcutaneous contusions on the scalp and limbs, left-sided 2nd - 4th rib fractures, and hematoma on the left lobe of the thyroid gland. The caregiver was unable to explain how these injuries were caused. Histology of the ligature marks revealed epidermal separation with polymorph cell infiltration in the dermis and red cell collections in the parenchyma of the thyroid gland. Elder abuse in Sri Lanka is an unmapped area needing further investigation to develop evidence-based interventions. Guidelines should be developed for the diagnosis, treatment, and management of elder abuse and neglect.

Keywords: Elderly abuse, neglect, physical violence

AB – 37

Unresponsive Multipara After Rupturing of Membranes: A Case of Systemic Amniotic Fluid Embolism

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Abstract

Amniotic fluid embolism (AFE) in pregnancy, is a rare but potentially catastrophic obstetric emergency characterized by sudden cardiorespiratory collapse and DIC. Despite early detection and prompt treatment, morbidity and mortality rates following AFE remain high. A 28- year- old term pregnant mother without comorbidities was admitted for a second pregnancy. Her current antenatal period was unremarkable. On admission,



she had no signs of infection or early labor, and routine investigations were unremarkable. On the following day, an artificial rupture of membranes (ARM) was done, and in 30 minutes and she complained of difficulty in breathing and excessive sweating. Fetal distress with bradycardia was observed on cardiotocograph (CTG) and while resuscitating she collapsed and became unresponsive. An emergency cesarean section was performed, and she was pronounced dead. The autopsy revealed multiple petechial hemorrhages over pleura and pericardium, bilateral blood-stained pleural and peritoneal fluid, and large retroperitoneal mesenteric bleeding. No evidence of mesenteric artery rupture or aneurysm was detected. Microscopic examination of the tissue sections revealed the widespread distribution of AFE mainly cuticulated epithelium, fetal squamous cells, and amniotic debris consisting of mucin in the microvasculature of lungs, brain, kidneys, liver, and heart. Performing Special stains with Alcian blue and immune histochemistry further confirmed the histologic diagnosis of AFE. The pathophysiology of AFE is not clearly understood. The process is more similar to anaphylaxis, so the term anaphylactoid syndrome of pregnancy has been suggested. This case highlighted the value of histopathology and special stains confirming the findings in AFE.

Keywords: Amniotic fluid embolism, alcian blue, artificial rupture of membranes, immune histochemistry, special stains

AB – 38

A Case of Disseminated Tuberculosis: Histo-Morphological Diagnostic Challenges

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Abstract

Tuberculosis (TB) is a chronic air-borne bacterial infection that primarily affects the lungs but may disseminate to other organs, especially in immune-compromised individuals. It can occur within weeks or after many years of infection with TB. This is a rare case of disseminated TB with an atypical presentation. A 62-year-old alcoholic manual laborer, a diagnosed patient with diabetes was admitted with ataxia, visual impairment, and altered level of consciousness for three days. He also has had intermittent cough and fever with constitutional symptoms for the one-month duration. CT and MRI of the brain and chest showed multiple ring-enhancing lesions. Mantoux test was negative and microorganisms or malignant cells were not detected by lumbar puncture and the results of lumbar puncture were negative for micro-organisms and malignant cells. Despite symptomatic treatment, he was pronounced dead on the fifth day of admission. Autopsy revealed meningeal inflammation and diffuse involvement of multiple parenchymal nodular lesions in the brain with mild edema of surrounding tissues. There were firm fibrotic lungs with adhesions and bilateral pleural effusion. Other organs were unremarkable. Histology showed multiple confluent granulomas with giant cells in the brain tissues as well as in lungs, liver, heart, and lymph nodes, which were positive for acid-fast bacilli. Special stains with PAS (Periodic Acid Schiff) and Grocott were performed to exclude parasitic and fungal infections. The cause of the death was declared as disseminated tuberculosis. This case exemplifies an atypical presentation of tuberculosis leading to the clinico- pathological challenges in diagnosis, which demands a higher clinical vigilance.

Keywords: Acid-fast bacilli, disseminated tuberculosis, ring-enhancing lesions, special stains

AB – 39

Decapitation Due to Blunt Force Trauma: A Case Report

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Abstract

Introduction: Decapitations are not rare in the forensic literature. Although decapitations are found sometimes in cases of suicides such as hanging and on rail tracks and in cases of homicides, they rarely occur in accidental and natural disasters. This is a case of a 61-year-old woman, who was found dead on the ground at the well nearby her home, following a tree falling on her head and neck causing decapitation. A treacle tree with a large, cylindrical striking surface had struck her neck. There was an extensive stretch laceration over the back of the scalp and neck, with margins resembling a cut. There were facial bone fractures, atlanto-occipital joint separation, and rib fractures. The head was attached to the body only by a few anterior strap muscles of the neck. There was extensive diffuse subarachnoid hemorrhage without cranial vault fractures. An extensive laceration of the skin of the back of the neck, as well as posterior neck muscles, indicated forced hyperflexion of the neck due to blunt force trauma on the back of the head and neck. There was no other fatal trauma to the chest and abdomen. The cause of death was given as decapitation. Although decapitations mostly occur due to sharp force trauma, they can occur due to blunt force also. This case is a rare presentation of decapitation, due to accidental infliction of blunt force.

Keywords: Decapitation, neck trauma

AB – 40

Death Due to Undiagnosed Cerebellar Fibroma in Psychiatric Patient: A Case Report

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Abstract

The sudden unexpected death of a psychiatric patient sounds suspicious to the relations, which needs the service of a forensic pathologist. The deceased had a bipolar disorder which manifest periodical behavioural changes. These symptoms are also shown with space-occupying lesions. This case report is on a deceased who had the bipolar disease and the autopsy and subsequent histology revealed cerebellar fibroma. A 63-year-old unmarried female with the diagnosed bipolar affective disorder for around 15 years was found dead at home after having a weakness for 3 days. She was on regular treatment and follow-up at the psychiatric clinic but poorly complied with her drugs. Dissection of the brain during the autopsy revealed a large mass lesion which was 5 cm in diameter, spherical in shape involving the whole lobe of the right cerebellum, soft to firm in consistency regular margins. There were no macroscopically compressive features in the brainstem. Histology of the tumor revealed, a spindle-shaped cell pattern, no mitotic figures, lack of inflammation and sparsely cellular in nature, and no significant infiltration, suggestive of cerebellar fibroma. As the tumor slowly enlarges over a period of time causing increased intracranial pressure in the posterior cranial fossa. This caused compression of higher centers in the brainstem and caused sympathetic over activation which resulted in respiratory depression and arrhythmias respectively. This case scenario shows the importance of doing an autopsy by forensic pathologists and doing histology for pathological confirmation.

Keywords: Brain tumor, sudden death



AB – 41**Comparative Analysis of The Injury Pattern of Two Victims Following a Bomb Explosion: A Case Report**

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Abstract

The below mentioned victims belong to an explosion from the recent past where it was suspected to be a human carrier with explosives. Case 1-A 20-year-old female was seated inside a church at the right side along the front rows. She was positioned more towards the middle. The suicide bomber was facing her from behind at the time of the explosion according to the information available. The autopsy revealed multiple, circular-shaped, penetrative lacerations mostly on the left side of the head, face, neck and torso regions. Metal shrapnel was detected at the depth of the injuries. The pattern and distribution of injuries indicated that the victim may not have been in proximity, due to the absence of any other explosive effects due to fire, heat, and mangling of body parts and mostly exposing the left posterior portion of the head, neck, torso and left upper extremity.

Case 2-An 8-year-old girl who was sitting on a bench had injuries following the same bomb blast. She was in the right middle of the church, more towards the left end of the bench. The explosion had occurred to her left side from the front, based on statements from surviving family members. The autopsy revealed multiple, circular-shaped, penetrative lacerations on the left side of the head and face. Injuries indicate that the victim was not in close proximity and exposing her left upper extremity. As the shrapnel ejected cause a linear trajectory, the distribution on the body mainly indicates the position of the deceased at the time of the explosion and in this case, the injury pattern confirmed the circumstantial evidence. It further proved the absence of any intervening objects in between the victim and the point of explosion.

Keywords: Bomb explosion, injury pattern, penetrating injuries**AB – 42****Death Due to Uncertain Mechanism Following Injury to Head by Firearm And/or a Fall by Own Height: A Case Report**

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Abstract

Introduction: In the case of a gunshot to the face and head, when the bullet tract penetrated the brain, it is easy to give a cause of death, mechanism of death, and reconstruction of events. Otherwise, it is difficult if the bullet tract fails to penetrate the brain and when it is shared with a simultaneous fall. A 39-year-old man was incapacitated immediately after a gunshot with a revolver by a policeman and the victim fell down backward. The autopsy revealed an entry and exit wound at the right side of the head with a keyhole deficit at the parietal area of the skull with an overlying intact scalp. It also revealed two radiating fractures from a bony deficit, one was directed inwards over the petrous temporal bone and the other fracture was over the back of the skull (occipital). Subdural hemorrhage measuring less than 50ml was detected on the right fronto-parietal region and no fracture contusion. There were bilateral haemorrhagic contra-coup contusions on the tips of both frontal lobes suggestive of a fall. Toxicological analysis of blood was negative. End of the autopsy cause of death was given as head injury following discharge from a rifled firearm. The injury pattern was compatible with given details of fall following firearm injury to the head even though accurate mechanisms and reconstructions are undetermined. This case highlighted



the difficulty in giving the cause of death, mechanism of death, and reconstruction of events in penetrating missile injury to head when it fails to penetrate cerebrum and combined with resultant fall.

Keywords: Firearm injury, non-penetrating brain injury, penetrating head injury, uncertain mechanism

AB – 43

Rapid Exacerbation of Dengue Infection in a Patient with Hypertrophic Obstructive Cardiomyopathy

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Abstract

The outcome of dengue spans from subclinical to various severe forms which is determined by the multitude of individual, health, and social dimensions. We describe a case with a rapid fatal outcome of dengue hemorrhagic fever (DHF) in a young male with hypertrophic cardiomyopathy. A 39-year-old male with serologically confirmed dengue fever preceded by two days of febrile illness suddenly became unconscious a couple of hours after the admission. Diffuse cerebral hemorrhage was confirmed with neuroimaging and the patient was ventilated on the same day following cardiac arrest. He was managed conservatively and succumbed to death on the fourth day while waiting for a peritoneal tap for abdominal compartment syndrome (ACS). The last platelet count two hours before death was 5000/. An autopsy revealed diffuse meningeal and cerebral hemorrhages associated with cerebral ischemia and features of widespread mucosal bleeding and plasma leakage in other organs. The heart showed features of hypertrophic obstructive cardiomyopathy (HOCM) and confirmed with histology. The diffuse pulmonary, hepatic, and renal damages were also noted. The cause of the death was declared as complications of dengue hemorrhagic fever in a patient with HOCM. Diffuse cerebral hemorrhage is an uncommon occurrence of DHF even with profound thrombocytopenia and decompensated liver disease. Acute decompensatory heart failure in HOCM is a major contribution to developing ACS in this patient while consideration of fluid resuscitation and prolonged ventilation may equally be important.

Keywords: Cardiomyopathies, dengue, viral fever

AB – 44

A Case of Homicide Due to Cumulative Effects of Multiple Asphyxia Mechanisms

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Abstract

Introduction: Homicide by asphyxia is relatively uncommon and the majority is reported with ligature and manual strangulation followed by suffocation. The present case reports a homicide of a female by a rare combination of two different mechanisms of asphyxia. The victim was a 43-year-old woman found dead inside the bathroom in an unusual posture where her head was partially immersed inside a bucket of water, while the neck was resting on edge of the vessel. There was a parchment-like deep groove across the anterior half of the left side of the neck with underlying strap muscle contusions. The laryngeal skeleton was intact. Several contusions with one pattern mark were noted on the scalp and both sides of the upper chest. No skull fractures or intracranial hemorrhages were



noted. Some scanty tenacious froth was present in the airways with moderately heavy, voluminous, and crepitant lungs. Histology revealed emphysematous changes in the lungs with alveolar edema. Toxicology was negative. The cause of the death was declared asphyxia due to cumulative effects of pressure on the neck and drowning. Blunt injuries on the head and chest can be contributory but do not amount to any significant fatal outcome. The injury pattern and overall findings were indicative of forcing the victim's neck against the water-filled bucket and during further questioning by the police after the autopsy, the spouse of the victim has admitted the responsibility for killing her in the suggested manner. The consideration of injury patterns together with circumstances is extremely valuable in the reconstruction of the event.

Keywords: Asphyxia, Compression of neck, Drowning

AB – 45

A Maternal Death Due to Myocarditis Complicated with Sepsis

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Abstract

Maternal deaths are usually reviewed by a panel of specialists to prevent similar incidents in the future, as it's an accepted tool for the evaluation of our medical service. A 28-year-old previously healthy primiparous mother delivered her child by elective lower segment caesarian section, at a tertiary care unit. She was discharged 23 days following her delivery as her child was admitted to the PBU. She was readmitted with fever, shortness of breath, and productive cough, two days after the initial discharge. She was suspected to have an underlying inflammation with multi-organ involvement, as her laboratory reports showed neutrophilic leukocytosis, with elevated liver enzymes and an abnormal renal profile. She was also suspected to have tight mitral valve stenosis and administered with a beta-blocker to avoid any tachyarrhythmia. Since then, she started to deteriorate and expired 2 days after admission. The autopsy revealed a collection of free fluid in the thoracic and peritoneal cavity and also inside the pericardial sac. Her heart was floppy with dilated chambers, lungs and liver were congested and the kidneys were oedematous, and the parenchyma had patchy pale areas. There was microscopic evidence of septic pulmonary thrombosis, myocarditis (more towards viral in origin), peri venular liver necrosis, and acute tubular necrosis. The cause of death was concluded as myocarditis complicated with sepsis in a postpartum mother. Clinicians should give prompt care on the basis of the whole clinical picture to avoid any catastrophic events.

Keywords: Maternal death, myocarditis, sepsis, septic pulmonary thrombosis

AB – 46

Rare Presentation of Rectus Sheath Hematoma: A Maternal Death

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Abstract

Introduction: Rectus sheath hematoma (RSH) is a rare clinical condition. It is caused by the accumulation of blood within the sheath of the rectus abdominis, secondary to rupture of an epigastric vessel or muscle tear. Although the common etiology includes trauma or abdominal operations, it rarely occurs spontaneously in patients on anticoagulant therapy, hematological diseases, hypertension, coughing, and pregnancy. It is an uncommon cause of acute abdominal pain and is often misdiagnosed as acute abdomen, inflammatory diseases, or tumors of the

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abdomen. The mortality rate for RSH is very low and mostly self-limiting. We reported a case that caused a fatal outcome in a spontaneous RSH during pregnancy. A 42-year-old mother of 3 children in her 4th pregnancy presented to a local hospital at 28 weeks of POA with severe abdominal pain, vomiting, and a history of severe constipation. She had become hemodynamically unstable and transferred to a tertiary care hospital and on admission, she was found dead. During the autopsy, it was found right side rectus sheath hematoma with associated haemoperitonium. The RSH is a rarely seen pathology and is often misdiagnosed or missed. This case highlighted that some RSHs may take an unpredictable course that may lead to unpredictable deaths.

Keywords: Maternal death, rectus sheath hematoma

AB – 47

Retrospective Study on The Method and Reasons for Suicide Among Victims Less Than 40 Years of Age Reported to a Tertiary Care Hospital In Sri Lanka

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Abstract

Introduction: Although Sri Lanka has reduced its suicide rate by 70% during the last two decades, still there is a significant number reported. Suicide of young productive age group is a tremendous burden to a country. Objective is to describe the methods used and the underlying reported reasons to commit suicide among people less than 40 years, who were autopsied at a tertiary care hospital in Sri Lanka.

Methodology: A retrospective descriptive study was conducted on suicides that were autopsied at a tertiary care hospital from 2014 to 2019. Records of the inquirer, as well as the medicolegal and the medical records, were perused.

Results: Out of 70 suicide cases 76 % were males, and 24 % were females. The reason for suicide was unknown to the relations. The majority followed intimate relationship issues outside the family. Intimate relationship problems were common among men while problems within the family were common among women. Family disputes and intimate relationship issues were common in both married and unmarried, while financial difficulties were common in the married. The majority (n=51) had selected hanging as the method to commit suicide while there were only 8 cases dying of poisoning. Self-immolation, though uncommon, was seen mainly among women.

Conclusions: A commonly known risk factor for suicide among young is intimate relationship issues. Therefore, the need for counseling services targeting the vulnerable was highlighted. The method used in the majority was hanging in our study though it was reported as self-poisoning among in previous studies.

Keywords: Hanging, intimate relationship problems, suicide, young age



AB – 48**A Retrospective Study to Evaluate the Significance of Routine Histopathological Investigations on Deaths Related to Ischaemic Heart Disease Based on Post-mortems Which Were Done at Colombo South Teaching Hospital**

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Abstract

Introduction: Ischaemic changes in the myocardium depends on the duration and severity of the hypoxia. In this study macroscopic changes of necrotic myocardium described in postmortem reports, initiating from pallor, dark mottling appearance, changing to yellow tan appearance with hyperemic margin to white fibrous scar were compared with accepted respective histological features such as wavy fibers with oedema, progressive changes of acute inflammatory reaction starting from neutrophilic infiltration, later replaced by macrophages, formation of granulation tissue and final fibrous scar in the H and E slides.

Methodology: This study is a retrospective descriptive study done on 112 autopsies, where cause of death was given as ischemic heart disease from December 2015 to December 2018. Myocardial macroscopic findings described in the postmortem reports were compared with the respective microscopy in the H and E slides.

Results: In this study, 73.2% cases gross pathological findings had showed incompatibility with their accepted microscopic findings and only in 26.8 % cases showed compatibility of their macroscopic findings with accepted microscopy. It was revealed, observed macroscopic findings were compatible with microscopic findings at the late stages of myocardial ischaemia than in the early period.

Conclusion: The results of the study showed the diagnosis of ischemic heart disease based on macroscopic findings is more compatible with relevant histology during late period of necrosis than the early periods. Therefore, histology is an important feature in maintaining quality and is still essential to confirm, refine, or refute macroscopic findings.

Keywords: Ischaemic heart disease, macroscopic features, microscopy

AB – 49**A Case Report on A Sudden Death Due to Arrhythmogenic Right Ventricular Cardiomyopathy in A Young Female**

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Abstract

Arrhythmogenic Right Ventricular Cardiomyopathy (ARVD) is an inherited myocardial disease associated with paroxysmal ventricular arrhythmias and sudden cardiac death, characterized pathologically by fibro-fatty replacement of the right ventricular myocardium. A 36-year-old female was found fallen in the backyard of the house, in the evening after she had a bath, which was noted by one of her children. She has immediately admitted to the nearest hospital but on admission, she was found to be dead. The autopsy was performed, and the



histopathology report was given as arrhythmogenic right ventricular cardiomyopathy. The commoner manifestations of ARVC are ventricular arrhythmias with left bundle branch block, ECG depolarization and repolarization changes localized to right precordial leads, and global or regional dysfunctions of the right ventricle. This is a case of sudden death in a young female, in which histology helped to give the cause of death, as the autopsy itself ended up as negative.

Keywords: ARVC, clinical manifestations, genetic basis, pathology, pathophysiology, prognosis

AB – 50

Death Of an Old Compulsive Smoker Following Burn Injuries Due to Risk Behavior

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Abstract

The National Fire Protection Association said, during 2012-16 there were 18100 reported cases of home structure fires, started by smoking and killing about 590 per year and 34% of the fires had started in the bedroom by smoking. An 85-year-old gentleman and a chain smoker passed away 36 hours following admission due to burning injuries with a burn surface area of 68% at Teaching Hospital Ragama. He used to smoke on the bed and had consumed alcohol before sleep and it supported the scene findings. The autopsy revealed third-degree antemortem flame burns involving the back of the trunk, limbs, and inner and outer aspects of the upper and lower limbs including armpits. Burns had spread to the outer aspects of the trunk on both sides. The body hair had signed. Soot had mixed with mucus and extended to the smaller airways with associated pulmonary oedema. The cause of death concluded as flame burn injuries. Flame burn injuries in a person, who was sleeping on the bed, while catching fire to the mattress is the most possible reconstruction, in this case. The possible cause for fire can be a non-extinguished cigarette bud. This is a very good case to study the categorization of burn injuries and reconstruction of an event by analyzing the scientific facts.

Keywords: Category of hurt, flame burn, reconstruction

AB – 51

Death in Custody Due to Injuries to The Head: Who is Responsible?

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Abstract

When there is a death of a detainee with a history of assault by civilians as well as by the law enforcement authorities, forensic opinion is extremely important in determining those responsible for the death. This is a case of death in custody of a young detainee who had a history of being assaulted by civilians and the police during the arrest. The victim was kept in custody without referring for clinical forensic examination even though he had injuries. His consciousness gradually deteriorated, and he had been brought to medical attention subsequently. He died on the day following the assault. The autopsy revealed a right-sided extradural hemorrhage, which was associated with a linear fracture of the unilateral temporal and parietal bones. There were brain contusions suggestive of coup injuries. There were multiple abrasions and contusions in extremities suggestive of blunt trauma and restraint. The cause of death was head injury following blunt force trauma. The pattern of head injury neither



concluded it as occurring as a result of police assault, nor as to the result of any other assault or even a fall. However, there were multiple injuries to the extremities indicative of restraint or intentional bodily harm caused by the law enforcement authorities and there was definite negligence by the officers in delaying medical assistance to this detainee with injuries. This case highlights the importance of clinical forensic examination before detention, especially when the detainee is giving a history of trauma before or during the arrest, even though there are no visible external injuries.

Keywords: Assault, death in custody, head injury, negligence

AB – 52

An Unusual Finding: Dominant Hand Entrapped in the Noose of the Ligature Used for Hanging

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Abstract

Introduction: Even though homicidal hanging is very rare, unusual findings or abnormal postures in hanging arouses suspicion. In such an occurrence, a forensic pathologist must perform a detailed examination to exclude any form of criminality. This is a case of hanging in which the victim's hand was found entrapped in the noose of the ligature and such presentation is rare in literature. A middle-aged female was found hanging in the living room of her house. The posture of the body was suggestive of a partial hanging and the right hand of the victim was found entrapped in between the noose and the neck with the palm facing outwards. During the autopsy, there was a discontinued ligature mark on the neck with conjunctival petechial hemorrhages in both eyes. The palm of the right hand had an abrasion at the site of entrapment and the distal part of the right hand had blisters. There were no other injuries in her body and toxicology was negative. The cause of death was given as hanging and the manner is compatible with suicide. In the absence of injuries indicative of defense or incapacitation, the entrapped hand within the ligature can be considered as a result of an intentional act of padding the neck against the ligature or as an accident. This case highlighted the importance of meticulous death investigation in abnormal presentation.

Keywords: Accident, entrapped hand, hanging, padding, suicide

AB – 53

Death Of a Child Following Status Epilepticus, Associated with Severe Sepsis: Is it Medical or Parental Negligence?

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Abstract

Prolonged febrile seizures and CNS infections are well-known causes of acute convulsive status epilepticus (CSE). We report a case of child death at a state rural hospital, and it had resulted in public unrest against the medical team for alleged medical negligence an eighteen-month-old male child was admitted to a rural hospital with convulsions. He had a history of febrile illness for a short duration. He was managed as a case of CSE, which did not respond to treatment needing mechanical ventilation. The bystanders forcibly took the child to a tertiary care unit without ventilator support. He was found dead on admission. The autopsy revealed established systemic



infection. Histopathology confirmed the diagnosis of meningo-encephalitis with multiple brain abscesses. There was bacterial thrombo-emboli with micro abscess formation in the heart, lungs, kidneys, thymus, and thyroid. Cause of death given as respiratory failure due to CSE complicating meningo-encephalitis and multiple brain abscesses. It is evident that the cause for CSE, in this case, was due to the combined effects of meningo-encephalitis with brain abscesses. At the time of the presentation, the child had a severe established infection of at least more than 24 hours, which is incompatible with the given history. This case highlights the importance of taking an accurate history and meticulous autopsy which can clear the doubts of alleged medical negligence. The delay in admission and unnecessary action of relatives could have contributed to the death of the child. The parent's knowledge of identification of the infection is also important in seeking early medical care

Keywords: Brain abscess, meningo-encephalitis, respiratory failure, status epilepticus

AB – 54

Role Of Forensic Pathologist in Occupational Lung Disease: A Case of Silicosis and Coal Worker's Pneumoconiosis

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Exposure to coal mine dust and crystalline silica will result in pneumoconiosis which may progress into massive pulmonary fibrosis and other complications like tuberculosis and carcinoma. In the forensic context of occupational lung diseases, all autopsy cases should be performed in order to diagnose etiology, describe industrial disease manifestations, and assess the quality of life before death, since such cases are liable for compensation. An 87-year-old male who lived in a semi-urban area and who had been working as a coal miner for 25 years presented with difficulty of breathing and died following 2 days of admission. He had retired from work 20 years back and developed progressive respiratory symptoms within a week. He had suddenly developed severe respiratory distress and ventilator support was given. Chest X-ray showed fibrosis. The autopsy revealed severe black lung disease with fibrosis and microscopy showed silicosis and coal workers pneumoconiosis. Other organ examinations including the heart were normal, other than some age-related changes. Furthermore, he was a non-smoker and had not been suffering from any other respiratory diseases. The cause of death was complications of coal worker's pneumoconiosis and silicosis due to prolong exposure to mineral dust. The severity of occupational lung disease may not be always compatible with the severity and progression of clinical symptoms as in this case. Therefore, the forensic pathologist should consider the amount and duration of mineral exposure and correlate it with autopsy findings. In the clinical setting, regular screening and follow-up in such workers should be encouraged even after retirement.

Keywords: Occupational lung disease, pneumoconiosis, silicosis

AB – 55

Spontaneous Rupture of Renal Angiomyolipoma: A Rare Cause of Sudden Death

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Abstract

Renal angiomyolipoma is a rare benign tumor consisting of a variable proportion of adipose tissue, smooth muscle and abnormal thick-wall multiple blood vessels. It has a strong association with tuberous sclerosis which is usually bilateral and multifocal. Further, angiomyolipoma accounts for marked mortality and morbidity in tuberous sclerosis. Though this is a case of giant angiomyolipoma (>10cm) which is usually symptomatic, this case was devoid of symptoms till its rupture. A 50-year-old female with diabetes mellitus, hypertension, bronchial asthma, and tuberous sclerosis for 15 years duration, developed sudden severe abdominal pain and collapsed in the early morning. She had died on admission to the hospital. At autopsy, there were bilateral nodular tumors involving the kidneys and parenchymal bleeding with rupture of the tumour was noted in the left renal tissue which was associated with 2 liters of blood in the retroperitoneal space. Renal parenchyma was completely distorted and there was no primary or secondary tumor origin in other organs except pale parenchyma. Microscopy of the sections of tumour revealed an admixture of thick dysmorphic blood vessels, smooth muscle, and adipose tissue. Further revealed macroscopic and microscopic evidence of haemorrhagic shock. The cause of death was concluded as haemorrhagic shock due to rupture of angiomyolipoma of the left kidney in a patient with tuberous sclerosis. This case highlights the importance of a holistic approach with historical details, complete autopsy examination and histopathology in routine autopsy practice.

Keywords: Angiomyolipoma, benign tumor, sudden death

AB – 56**Fatal Electrocution with a Fence for Elephants**

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Abstract

Deaths due to animal attacks as well as electrocution are common. Nevertheless, electrocutions by electrical fences which are used to drive away animals, commonly known as “Ali Weta” are uncommon. A 45-year-old policeman with an uncomplicated past medical history was found to have died in a place 200m from the police post. Incidentally cattle were tied to a nearby tree. Postmortem revealed multiple contusions and abrasions found all over the body. There were no associated fractures or damage to internal organs. The mark on his abdomen was identified and histologically confirmed to be an electrocution. No other significant histopathology was identified. Blood alcohol level was 109mg/100ml. Cause of death was given as death due to electrocution. On investigation, it was found that the policeman had gone hunting with fellow policeman and a villager after consuming alcohol. He had sustained injuries by an elephant attack & was carried on a “Messa” as he was unable to walk. His abdomen probably had touched the electric fence when the messa carrying the injured person was pushed under the ali weta. When he was taken to the police post he was found to have died. So, they fabricated the scene as he had died by attack of cattle. “Ali Weta” in Sri Lanka uses an electricity of 6.5 to &.5KV as electrical pulses & the electric shock causes the animal to fling physically away from the conductor wire as the contact time reduced below the cardiac threshold for damages. So deaths due to contact with Ali weta are rare. However, this case, as the injured person was unable to respond, the exposure may have been prolonged.

Keywords: Ali Weta, Animal attack, Electrocution

AB – 57**Fracture Of Cervical Spine: Is the Undertaker to Be Blamed?**

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Abstract

Introduction: Finding a cervical vertebral fracture at autopsy would lead to questioning the manner of causation. It could be brought about by violence, perimortem injury precipitated by natural disease, or post-mortem handling. A 73-year-old male was found unconscious fallen from his chair at home and declared dead upon admission. The autopsy revealed a hemopericardium of 250 cc and rupture of the left anterior ventricular wall with an underlying yellow-tan infarct and significant coronary atherosclerosis. A fractured cervical vertebra involving the intervertebral disk at C5-C6 with surrounding soft tissue bleeding with no underlying cervical spinal cord injury was detected. Histology revealed bleeding into the muscles with acute inflammatory cell infiltrate. The Head or neck did not have any other soft tissue injuries. The absence of other injuries in the external and internal examination excluded the possibility of violence as a cause for the fracture. Undertakers' fracture is characterized by subluxation of the lower cervical spine from tearing of intervertebral disc between C6-C7 level from poor handling of the corpse. But such postmortem fractures won't display an acute reaction which was present in this case confirming the perimortem injury. The cause of death was concluded as hemopericardium due to a ruptured left ventricular wall following myocardial infarction. Proper history, thorough postmortem examination, and histological examination are vital in ascertaining the mechanisms which may give rise to artifacts and the handlers are not always to be blamed.

Keywords: Neck injuries, postmortem artifacts

AB – 58

Self-Induced Hemopericardium by A Needle Shaft: A Bizarre And Novel Method Of Committing Suicide

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Abstract

Introduction: This communication highlights a bizarre method used to commit suicide. A 20-year-old boy diagnosed of ulcerative colitis and depression, who also had previous suicidal attempts was found unresponsive in his room. His mother noted a syringe needle shaft with a 3cc syringe barrel in situ on the left side of the chest. Immediately he was admitted to the hospital but succumbed to death. Autopsy revealed 3 fresh puncture marks in the left side of the anterior chest wall, which were situated 9 cm below the left sternoclavicular joint and 8cm medial to the left nipple. There was a 4 x 5 cm area of fresh hemorrhage in the 4th intercostal space in between the left side of the sternum, mid clavicular line. Two pericardial perforations with a hemopericardium of 150 ml was noted. Anterior wall of the heart and left anterior descending artery were pierced. The needle penetrated was a 23 gauge one with a total length of 3.5 cm. There were multiple, parallel, superficial, hypo pigmented, scars, and multiple regular, and irregular vertical and horizontal abrasions on accessible sites of the body. Microscopy revealed multiple fresh hemorrhages into the myocardium at the site of penetration. The cause of death was given as hemopericardium due to multiple puncture wounds to the anterior descending artery of the heart due to penetration by a shaft of a 23-gauge medical syringe needle. This is a novel method of committing suicide and not previously reported in the forensic literature.

Keywords: Hemopericardium, suicide



AB – 59**A Death by Illegal Power Trapping: A Case Report**Rathnaweera RHAI¹, Gunarathna EGUN²¹Department of Forensic Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka²Office of the Judicial Medical officer, District General Hospital, Vavuniya, Sri Lanka**Abstract**

In Sri Lanka, common causes for injuries due to electrocution include the use of defective electrical appliances, faulty wiring, failure to take safety precautions and installations of unauthorized connections from high tension lines. A 48-year-old farmer from a rural area left home around 9.00 p.m. to go to his paddy field and did not return. The next morning, he was found lying unresponsive on a tea estate near his paddy field. Evidence of an unauthorized power supply was present at the scene. The autopsy revealed, multiple 2nd-degree burns on the front aspect of the right upper thigh, back of the middle third of the right forearm, front of the upper third of the left leg, and between the base of the right thumb and index finger. A ruptured blister was present on the back aspect of the thumb over the metacarpo-phalangeal joint. Musculo- skeletal dissection revealed charred subcutaneous tissues and superficial layers of the muscles underlying the burn injuries. No deep contusions or fractures were seen. Histopathology examination of the tissues taken from burn sites revealed marked charring, involving epidermis, dermis, and subcutaneous tissue with intra-epidermal blisters and palisading of the basal cells. The cause of death was stated as electrocution and the manner was accidental following scene investigation and findings of the autopsy. A detailed history regarding the incident, scene visit, and meticulous postmortem examination with the histological and toxicological analysis is recommended prior to concluding the cause of death as electrocution.

Keywords: Burns, Electrocution, Ventricular fibrillation**AB – 60****A Case of Twin Infanticide**

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Abstract

Introduction: Infanticide of twins has not been reported nationally or internationally. A 42-year-old widow in her 4th pregnancy had home delivery of normal healthy male and female twin babies. She concealed her pregnancy by not attending an antenatal clinic. She did not have any history of psychiatric disease. Immediately after the delivery, she wrapped them in a cloth and put them under a mattress. She claimed that the first twin was born dead. Her neighbours had informed the police after being alerted by her 6-year-old child who was an eye-witness. Examination of the mother revealed evidence of pregnancy and recent vaginal delivery and was referred to a Forensic Psychiatrist. The initial assessment revealed mild depression in the mother. At post-mortem examination, live births were confirmed macroscopically and on histology. There were no abnormalities incompatible with life. The male twin had contusions on the head and the female twin had a fracture of the hyoid bone and contusion on the chest. Both had features of asphyxia. Infanticide is not uncommon in low and low-middle-income countries when the pregnancy is out of wedlock. Although the mother stated that one infant was a stillbirth, the eyewitness account by the 6-year-old child and the post-mortem findings verified both were live births and thereby confirming it was twin infanticide. Improving awareness on contraception, surveillance by midwives and providing support for adoption and counselling of vulnerable mothers will help to preserve the valuable lives of the infants.

Keywords: Live births, twin infanticide

AB – 61**A Sudden Death Due to Cardiac Amyloidosis**Rathnaweera RHAI¹, Gunarathna EGUN²¹Department of Forensic Medicine, Faculty of Medicine, Karapitiya, Galle, Sri Lanka²Office of the Judicial Medical Officer, District General Hospital, Vavuniya, Sri Lanka**Abstract**

Introduction: Amyloidosis is a condition characterized by the extracellular deposition of insoluble fibrillar protein in tissues and various organs. Systemic amyloidosis can present with a wide range of symptoms depending on the organs which are primarily involved. Cardiac amyloidosis may affect the myocardium, pericardium, valves and large or small vessels. A 62-year-old female presented with sudden onset of shortness of breath and chest pain. She did not have any significant past medical history. Despite treatment, her condition deteriorated, and she died a few hours after admission. The autopsy revealed cardiomegaly and mild triple vessel coronary artery atherosclerosis. With hematoxylin-eosin staining, a homogenous, eosinophilic substance was identified within the myocardium. The definitive diagnosis of amyloidosis was established by the demonstration of apple-green birefringence with Congo red stain under polarized light. Interstitial fibrosis and myocyte hypertrophy were also evident. The sampled coronary arteries showed mild atherosclerosis, with up to 40% occlusion. There were no acute ischaemic changes. The lungs showed moderate intra-alveolar oedema. The cardiomegaly was found to be mainly due to the deposition of amyloid protein and this is more likely to be primary amyloidosis. With corroboration of the history and autopsy features and after exclusion of other possible causes of deaths, the cause of death was given as complications of cardiac amyloidosis. Cardiac amyloidosis is an emerging challenge for forensic medicine practitioner because it is a cause of heart disease, produces restrictive hemodynamics, shows nonspecific autopsy features and needs special histopathological stains for diagnosis.

Keywords: Amyloidosis, Special, Sudden unexpected death**AB – 62****Two Competing Causes of Death in A Man Retrieved from A House Fire**Fernando GWNIS¹, Gangahawatte SDS¹, Kitulwatte IDG²¹Office of the Judicial Medical Officer, Balapitiya, Sri Lanka²Department of Forensic Medicine, Faculty of Medicine, Ragama, Sri Lanka**Abstract**

The medico-legal investigation in case of deaths due to fires deals mainly with the manner of death and cause of death. When the burn surface area is minimum and limited to one side in a man with competing causes of death the investigation is a challenge. A 77-year-old man was brought to the hospital in a state of deep coma with 26% second-degree burn on the right side, including the torso face, neck, upper thigh and hand palm almost degloved, succumbed to death soon after admission. According to the relatives, the fire was noticed from his right side, while seated on a bed, the deceased had talked amidst the fire. He was having uncontrolled hypertension and ischemic stroke leaving him bedridden. The autopsy revealed soot mixed with mucus beyond the vocal cords, large central mid-brain hemorrhage, and multiple old lacunar infarctions involving the basal ganglia. The coronary arteries were 80% stenosed with atheroma, fibrotic patch in the myocardium, and contracted granular kidneys. The blood taken for carbon monoxide levels and toxicology was decomposed. The midbrain hemorrhage and smoke inhalation are equally lethal and can have a similar presentation. Careful scientific evaluation with literature review concluded the cause of death was brainstem hemorrhage due to hypertension who has got flame burns, and smoke inhalation.



This case, with the rare co-existence of two different competing causes of death under two different circumstances, highlights the importance of meticulous autopsy and proper scientific interpretation.

Keywords: Brainstem hemorrhage, House fire, Smoke inhalation, Soot

AB – 63

Mortality in Muscular Dystrophies: Experience from a Single Center in Sri Lanka

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Abstract

Introduction: Muscular dystrophy is an inherited group of progressive myopathic disorders, characterized by progressive myocyte necrosis, with subsequent replacement by connective tissue and fat. Under this broad umbrella term, different sub-types have been identified. Literature on muscular dystrophies in the Sri Lankan context is scarce, possibly due to under-reporting and under-diagnosis due to the low availability of genetic and immunohistochemistry studies. Case 01: 63-year-old male, diagnosed with limb-girdle muscular dystrophy (LGMD), using muscle biopsy, nerve conduction studies, and electromyography, in the early 20s and having other co-morbidities including diabetes, hypertension, and dilated cardiomyopathy, developed difficulty in breathing for two days and was pronounced dead on admission. Autopsy revealed bilateral pleural effusions with the collapse of the lower lobe of the right lung. Case 02: 19-year-old male, diagnosed with Duchenne muscular dystrophy (DMD), using muscle biopsy and electromyography, by 4 years of age, developed difficulty in breathing and chest pain and was pronounced dead on admission. The autopsy revealed extensive myocardial fibrosis involving the septum. Severe muscle wasting was present, with joint contractures in the second case. Histology demonstrated degenerative muscle fibers with fatty infiltration. Subtypes of muscular dystrophy differ from each other with regard to onset, inheritance, and progression. However, mortality is commonly due to cardiac or respiratory failure, leading to premature death. Cardiomyopathy and congestive cardiac failure are frequent in DMD, whereas conduction abnormalities are prevalent in LGMD. Apart from reduced ambulation, chronic restrictive type respiratory failure develops requiring non-invasive mechanical ventilation.

Keywords: Duchenne muscular dystrophy, limb-girdle muscular dystrophy, muscular dystrophies

AB – 64

An Atypical Firearm Entrance Injury Over the Face

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Abstract

Introduction: Atypical entry wounds can lead to erroneous case interpretations. This case highlights the importance of a comprehensive scene investigation and analysis of traces found on bullet holes. A young male was found dead slumped over the driver's seat of a car. The driver's side window was shattered. Empty bullet cases were strewn over the road. An elliptical shaped irregular penetrating laceration was present over the right cheek with outward radiating minute tears associated with glass particle embedded small superficial lacerations distributed over the cheek. Burning, blackening, and tattooing was absent. A single large exit wound was seen over the left parieto-occipital region. The intermediary object in this case was the driver's side window, confirmed by the shattered window and presence of tiny glass particles embedded in the skin. The elliptical shape of the injury can be



explained by the fact that the bullet started wobbling after its impact with the tempered glass and entered the skin sideways as opposed to a nose-first direction. The cause of death was given as multiple firearm injuries to the head from a rifled firearm, and the manner of death was homicide. Visiting the scene of crime and analyzing the trace materials found around the bullet hole is helpful in determining the causation of certain atypical firearm entrance injuries to give an expert opinion based on scientific reasoning.

Keywords: Atypical, firearm injury, scene of the crime, trace evidence

AB – 65

Death From Grinder Injury: A Rare Presentation

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Abstract

Bursting disks of poorly maintained and unguarded angle grinders commonly injure the head and face of the operator. We report a death following grinder injury to femoral vessels which is a rare occurrence in literature. A 37-year-old male, who was unskilled labor for a construction company sustained a groin injury by bursting a grinder disk while sharpening an axe. He succumbed to death, even the following resuscitation at a tertiary care unit within 45 minutes. The autopsy revealed a large torn laceration on his right groin with extensively torn femoral vessels. Toxicology was negative. The broken pieces of grinder blade, and poorly maintained grinder without guard were evident at the scene investigation. There was no evidence of using protective devices at the time of the incident. The cause of death was stated as a hemorrhagic shock due to femoral vascular injuries and the manner was opined as accidental at the inquest. The employer agreed to pay compensation at district courts. The use of poorly maintained tools especially by unskilled individuals is hazardous. It further emphasizes the importance of wearing protective device equipment by workers during work. These are overlooked on a regular basis by employers as well as government authorities to minimize such tragedies.

Keywords: Grinder injury, hemorrhagic shock, injury prevention, occupational hazards

AB – 66

Laryngo-Hyoid Fracture: Is It Always Indicative of Pressure on Neck?

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Abstract

Fractures of hyoid bone and larynx especially the thyroid cartilage are important findings in autopsies to determine the application of pressure on the neck. Greater cornu of the hyoid bone and the superior horns of the thyroid cartilage is more vulnerable. Fracture of those structures with bleeding into surrounding tissue indicates antemortem fracture as well as in other words most probably ante-mortem pressure on the neck. A dead body of an elderly female was found on the path of the 'Way' river. She was missing since the time of heavy rain on the previous day. The police found the suspected place of the fall into the water, which was a branch of the 'Way' river, about 1.5 km away from the place of recovery of the body and in the middle of the way there was a waterfall which was about 50 to 75 feet height. The autopsy revealed multiple lacerations of the scalp and face with underlying linear fractures of the skull and facial bones. Thin subdural hemorrhage with spotty sub-arachnoid

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hemorrhage was seen. Fracture of the left greater horn of the hyoid bone with fracture of both superior horns of the thyroid cartilage with the fractured body of the 6th cervical vertebra without any external injuries to the neck or contusions of the neck muscles was found. Multiple rib fractures were seen. There were multiple abrasions and contusions on different planes of the body. An open fracture of the left leg was noted. A probable cause of death was given as drowning, though the diatom test was negative. Though the commonest mechanism of causation of laryngo-hyoid fractures is pressure on the neck, there are other mechanisms like hyper-extension that can cause laryngo-hyoid fractures.

Keywords: Hyper-extension, laryngo-hyoid fractures, pressure on the neck

AB – 67

Diagnosis of Arrhythmogenic Right Ventricular Cardiomyopathy or Dysplasia: Role of Forensic Practitioner

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Abstract

Arrhythmogenic right ventricular cardiomyopathy/dysplasia (ARVC/D), characterized by atrophy of the right ventricular myocardium with fibro-fatty replacement, is mainly a genetically determined disease with an autosomal dominant inheritance pattern. ARVC is frequently under or over-diagnosed due to the absence of a single diagnostic test and the subtleness of morphological changes. This paper is trying to address how forensic practitioners could handle a sudden unexpected death which is having a suspicion of ARVC. The Gold standard in the diagnosis of ARVC by histology is based on the demonstration of transmural fibro-fatty infiltration of the right ventricular myocardium. In ARVC, following the loss of cardiac myocytes by necrosis, fibrosis is accompanied by fatty infiltration, for which the reason is still not clearly understood. Also, surrounding inflammation and high levels of inflammatory cytokines have been observed in ARVC. Over-production of adipokines in metabolic syndrome causes oxidative stress, inflammatory response, and accelerated atherosclerosis. Hence, high serum lipid levels found in metabolic syndrome hypothetically could facilitate fatty infiltration into areas of myocyte necrosis and fibrosis. Isolated fatty infiltration may be seen in most cases and should be excluded from ARVC. The common cause of sudden death belongs to the cardiovascular system and the majority is due to ischemic episodes which also lead to fibro-fatty infiltration of the myocardium. So, in this context, the question arises whether there could be acquired etiologies for ARVC, such as metabolic syndrome, which includes central obesity, dyslipidemia, hyperglycemia, and hypertension apart from the genetic causes. The background information including clinical records, histopathology, and DNA analysis is required for a comprehensive diagnosis of ARVC. However, in developing countries like Sri Lanka, clinical records and histopathology are warranted for arriving at the diagnosis of ARVC at autopsy. But should the forensic pathologists' "role" necessarily end there?

Keywords: ARVC, metabolic syndrome, sudden cardiac deaths in young

AB – 68

Meleney's Synergistic Gangrene: A Rare Case of Soft Tissue Infection

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Abstract

Meleney's synergistic gangrene is a rare, but rapidly destructive and potentially fatal condition causing infection and gangrene of skin and subcutaneous tissue of the abdominal wall. Abdominal surgery and trauma are two main risk factors, spontaneous occurrence has also been observed. It's a polymicrobial infection, commonly isolating streptococcus from the periphery and gram-negative rods from the center. A characteristic skin lesion is central cutaneous necrosis surrounded by a purple zone or halo with an advancing area of redness. Aggressive surgical debridement is necessary with empirical antibiotics. The number of reported cases in the literature is scarce. A 60-year-old male, presenting with lower abdominal pain and fever for 3 days, was hemodynamically stable and had purple-red discoloration and blistering of the skin of the abdomen. An ultrasound scan showed abdominal wall oedema. Extensive wound debridement was done and soft tissue infection and necrosis with associated pyomyocytis were found. Wound culture isolated Coliforms and Enterococcus sp. He died three days post-operatively, in the intensive care unit. The autopsy revealed a large open wound on the anterior abdominal wall, with unhealthy skin, subcutaneous tissue, and muscles. Intestines, including the appendix, were normal. Histology of subcutaneous tissue of the abdominal wall revealed oedema, cellular necrosis with haemorrhages and mixed cellular infiltrate with predominant neutrophils. The cause of death was given as septicaemia due to extensive abdominal wall infection (Meleney's gangrene). Awareness should be raised regarding Meleney's gangrene, which although rare, can be rapidly fatal unless detected early and managed scrupulously.

Keywords: Gangrene, Meleney's synergistic gangrene, septicaemia, soft tissue infection, surgical debridement

AB – 69**Rare Complication of Myocardial Infarction: Posterior Left Ventricular Free Wall Rupture**

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Abstract

One of the life-threatening complications of Acute Myocardial Infarction (AMI) is myocardial rupture, which is directly responsible for mortality in 8% of AMI patients. A fatal yet quite rare form of this complication is Left Ventricular Free Wall Rupture (LVFWR), which occurs in about 2% of cases. A 77-year-old female with a history of systemic hypertension, and hyperlipidemia was admitted to the hospital due to retro-sternal non-radiating type chest pain for four hours. She was diagnosed as having inferior myocardial infarction and managed accordingly. On the 4th day of the illness, the patient collapsed and died shortly afterward. The autopsy revealed an LVFWR with 200ml of clotted blood in the pericardial sac. The heart was found to be enlarged with atherosclerotic changes in all three coronary arteries. Left ventricular free wall rupture is the cause of death in up to 10% of in-hospital deaths following myocardial infarction, and it results from softening and weakening of the necrotic and subsequently inflamed myocardium. It carries a high mortality rate. The classical risk factors for LVFWR are elderly patients commonly in-between 65 and 70 years, female gender with a higher incidence in arterial hypertension and no previous anginal attacks. However, clinical signs and symptoms may be misleading and could be a reason for misdiagnosis. Diagnostic errors could become a reason for malpractice claims in certain instances. It also gives rise to sudden death after a symptom-free period requiring a medico-legal autopsy to determine the exact cause of death.

Keywords: Acute myocardial infarction, cardiac tamponade, left ventricular wall rupture,



AB – 70**Analysis of Suspected Covid-19 Deaths Subjected to Inquests at Teaching Hospital Karapitiya**

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Abstract

Introduction: It is felt that discrepancies are occurred during the investigation and disposal of deaths according to Covid-19 guidelines issued by the Ministry of Health on several occasions in 2020. Objective is to determine the difficulties and the outcome of investigations related to management of dead.

Methodology: We analyzed 71 suspected Covid-19 deaths, which were subjected to inquests between March to December 2020.

Results: Samples for polymerase chain reaction (PCR) were obtained in-ward in 38 cases and by Judicial Medical Officers (JMOs) in 33 cases. All these reports had negative results. 15 out of 33 deceased persons tested by the JMOs have died before admission to the hospital. Three deaths were cremated which fall under 'category 2' of the current guidelines on 'Autopsy Practice and Disposal of Dead body due to Covid-19' dated 01.04.2020. PCR testing on 18 deaths was due to clinical suspicion based on respiratory symptoms, and others were due to close contact of Covid-19 patients or sudden deaths in a high-risk category (elderly with comorbidities). In 11 cases, the causes of death (COD) were declared as broncho or lobar pneumonia following autopsies. In 6 cases the dead bodies have been released by the Inquirers with apparent causes of death. All other cases were subjected to full autopsies.

Conclusions: The clinical criteria adopted to designate 'suspected Covid-19' patients were variable. The indications for inquests were not uniform. The most autopsy causes of death were related to non-respiratory pathological conditions. The conduct of inquests and subsequent autopsies of suspicious Covid-19 deaths is a complex process even in a major centre. It is essential to have better coordination and a continuous dialogue between public health, clinical, pathological, and laboratory sectors to detect Covid-19 at all levels. It is apparent that the management of Covid-19 dead is a complex process and cannot be done properly in current settings. Hence urgent streamlining is required. This needs continuous and wider multidisciplinary dialogue.

Keywords: Autopsy, cause of death, covid-19, inquest, PCR, Sri Lanka

AB – 71**Fatal Pulmonary Thromboembolism Following Leg Massage**

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Abstract

Venous thromboembolism (VTE) is a condition that includes both deep vein thrombosis (DVT) and pulmonary thromboembolism (PE). It is a major cause of morbidity and mortality after the formation of DVT. Few case reports and case series of massage-related adverse events are mentioned in the literature. This case illustrates the occurrence of PE which ended fatally in a man who develop sudden bilateral calf pain and resorted to ayurvedic



treatment. A 38-year-old recently married man developed bilateral calf pain of one-week duration. After seeking treatment initially from a general practitioner, he decided to resort to ayurvedic treatment later. Calf massaging was done, and the victim collapses soon after massaging. He was confirmed dead on arrival at the hospital. The autopsy revealed massive pulmonary embolism and the presence of DVT in calf muscles. The prolonged period of inactivity is a known factor that promotes the formation of deep vein thrombosis. He has a history of standing for prolonged periods of time and probably massaging resulted in dislodging the already formed thrombus causing PE. However, available data is not sufficient to arrive at a conclusion on the association of PE with the act of massaging. Although the incidence of adverse events is unknown and probably seems to be low, even fatal effects similar to this case could occur occasionally.

Keywords: Calf pain, deep vein thrombosis, massaging, pulmonary embolism

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Invasive Pulmonary Mycoses; A Step Towards Molecular Diagnostics

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Abstract

Introduction: Human fungal infections; also called "Hidden - killers" are sometimes the reflection of an underlying devastating entity. We present a case of fatal pulmonary mycoses as a means of illustrating clinicopathological correlations and diagnostic considerations. A 14-year-old girl who had a history of suppurative cervical lymphadenopathy at two and five years of age was admitted with productive cough and fever for one week and treated inward as bronchopneumonia. Her two siblings died of fungal pneumonia a few years back. She was investigated and found negative for obvious immunosuppression and related etiologies, except for having a persistent elevation of inflammatory markers despite treatments. She died in 4th week of her hospital stay. Autopsy findings were mainly confined to the lungs, which were heavy and consolidated with multiple parenchymal abscesses. Histology revealed diffuse involvement of abundant proliferating fungal hyphae with mass formation (mycelia), and occasional foci of small budding yeasts indicating co-infestation of aspergillosis and histoplasmosis respectively. The cause of death was attributed to invasive fungal pneumonia. With that, the brother and the father of the victim who had recovered from a similar pneumonic episode were re-investigated as a genetic predisposition to invasive fungal infections was highly suspected with clinic-pathological characteristics. Finally, a rare disorder, mendelian susceptibility to mycobacterial disease (MSMD), was confirmed with molecular diagnostics, and the family members were directed to further assessments. Autopsy findings of the presenting case are consistent with Invasive pulmonary mycosis in a patient with genetic susceptibility and highlight the importance of thorough investigations to the molecular level to overcome preventable tragedies.

Keywords: Fungal infection, mycobacterial disease, pneumonia

AB – 73

Death Following Diaphragmatic Hernia: A Case Report

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Abstract



Introduction: Late presentation of congenital diaphragmatic hernia is rare, which includes foramen of Morgagni, foramen of Bochdalek, para-oesophageal hernia, and eventration. A literature survey revealed this is the first reported maternal death following complications of Bochdalek hernia in Sri Lanka. The deceased was a 24-year-old mother of one child, and she was apparently a healthy individual according to her family members. Past obstetric history of elective caesarean section due to short stature was uneventful. During POA of 29 weeks, she developed abdominal pain, chest pain, and backache and was admitted to the hospital. ECG was unremarkable and she was treated for gastritis. On the third day, she collapsed while walking to the toilet. The autopsy revealed the trachea and the heart deviated to the right side with approximately 550 ml of blood-stained effusion present in the left chest cavity. The left lung was collapsed and the stomach, spleen, distal end of the tail of the pancreas, bowels, and omental fat had herniated into the left chest cavity through an oval-shaped deficient area of the left diaphragm measuring 7x4 cm, located postero-laterally. The cause of death was concluded as complications of Bochdalek hernia. Major complications of Bochdalek hernia are compression atelectasis of the lungs and cardiorespiratory compromise as evident in this case. Though rare, it is an important under-recognized cause that could lead to complications resulting in sudden death. This case emphasizes that chest and abdominal pain during late pregnancy should be investigated thoroughly.

Keywords: Diaphragmatic hernia, late complications, maternal death

Forensic Toxicology, Anthropology, Science, Education, Law, and Ethics

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A Legislation Made on Smelling of Liquor: Erroneous in The Context of Scientific Novelty After Four Decades

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Abstract

Section 11 of the ‘Offences committed under the influence of liquor (special provisions) act no. 41 of 1979’ states that ‘A person shall be presumed to be under the influence of liquor if at or about the time of the commission of the act he is smelling of liquor unless evidence to the contrary has been adduced. An endorsement to the presence of breath-smelling of alcohol by the medical expert in the Medico-Legal Examination Form could lead to a conviction under this act. Ethyl alcohol is odorless, and its smell is due to the presence of congeners produced during fermentation. Therefore, the odor of alcohol frequently detected after consumption of alcoholic beverages is not due to alcohol but to congeners. Chemical compounds belonging to the said congeners (acetone, acetaldehyde, esters, tannins, aldehydes) can also be produced within the body naturally, during the metabolic process, and in disease conditions. Also, several edible food and pharmaceutical/herbal drugs release these chemical compounds within the body. High-quality alcohol does not have congeners and hence a smell is not emanated. In addition, this odor may persist in the tissues for several hours after the entire amount of alcohol has

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been eliminated from the body. Therefore, the legal presumption that alcohol is present in blood-based on the smell of liquor is erroneous. Conviction upon smelling of liquor should be stopped, and the said legislation should be amended. Further, the Medico-Legal Examination Form should also be amended in this regard.

Keywords: Congener, ethyl alcohol, liquor, smelling

AB – 75

Novel Tools For Assessment of Drunken Driving: Are They Legal Within the Sri Lankan Jurisdiction?

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Abstract

Digital breathalyzer and the saliva alcohol test have become modern tools to detect drunk driving and are widely used by forensic physicians in some teaching and general hospitals in Sri Lanka. This paper appraises the legal validity of the digital breathalyzer and the saliva alcohol test within the Sri Lankan Jurisdiction. A saliva alcohol test is a noninvasive, on-the-spot screening test, which gives quantitative results in fewer than five minutes using a saliva sample. A Digital breathalyzer is also a reliable tool to detect high, moderate, and low alcohol intake. Both these tests have been approved and certified by worldwide organizations and have international recognition. Their usage has been validated in many other jurisdictions. However, according to the Motor Traffic Act of Sri Lanka, the breath test for alcohol shall be carried out by a police officer. Therefore, opinions framed by forensic physicians regarding the cases of drunken driving by means of the digital breathalyzer are contradictory to the current law of the country. Neither the binding judgment of Nalinda Kumara Vs Officer-In-Charge of Police, Kandy nor the Motor Traffic Act of Sri Lanka does not speak about an assessment of blood alcohol level using saliva. Therefore, using saliva alcohol test and framing opinions on it has no legal value and could be challenged in a court of law. Considering the importance of these novel tools for a fair administration of justice, its validation should be done by amending the Motor Traffic Act of Sri Lanka and related regulations, without any delay.

Keywords: Alcohol, digital breathalyzer, drunken driving, saliva alcohol test

AB – 76

Case Series of Prinso Poisoning in Galle District

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Abstract

Introduction: The cheap, toxic laundry detergent powder Prinso consists of two sachets, one containing pink crystals and the other white granules. Prinso is also known as “pus kudu” has gained popularity for deliberate self-poisoning among the young and old in the Southern Province of Sri Lanka. **Case 1:** A 24-year-old male ingested Prinso powder to commit suicide after a dispute over a love affair. He had episodes of haematemesis and epigastric pain. He died on admission to the hospital. **Case 2:** A 77-year-old male psychiatric patient committed suicide by ingesting Prinso powder and died at home. Vomitus was present at the scene. **Case 3:** A 44-year-old female ingested



Prinso powder and committed suicide after a divorce. She had episodes of abdominal pain and vomiting and died on admission to the hospital. Autopsy findings in all cases showed corrosive inflammation of the stomach with haemorrhagic gastritis. Kidneys showed signs of acute kidney injury. Histology of kidneys showed signs of acute tubular necrosis with oxalate crystals in the tubules. The Sri Lankan government has banned the above product several years ago. But has still been used as a detergent powder in the southern province. The main toxicity and mortality were related to its intense corrosive effect on the gastrointestinal tract associated with renal failure.

Keywords: Detergent, forensic toxicology, laundry detergent

AB – 77

Death Due to MCPA (4-Chloro-2-Methylphenoxyacetic Acid) Poisoning

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Abstract

MCPA (4-Chloro-2-methylphenoxyacetic acid) is a powerful, widely used phenoxy herbicide. The pure compound is a brown-coloured powder. MCPA has been extensively used in agriculture to control broad leaf weeds as a growth regulator. The mortality from intentional self-poisoning in Sri Lanka is high given the access to potent insecticides by the largely rural population. Most poisoning deaths in Sri Lanka are due to organophosphorus insecticides, but deaths from intentional self-poisoning with other herbicides such as MCPA are noted. A 54-year-old male farmer consumed a bottle of MCPA to commit suicide over financial issues. He developed nausea, vomiting, and diarrhoea. He was treated at the ICU and died within 24 hours. The autopsy revealed stomach wall inflammation and patchy bowel necrosis. Lungs showed signs of pulmonary oedema. From histopathology, the liver showed signs of centrilobular necrosis, the stomach and bowel showed signs of necrosis, kidney showed signs of acute tubular necrosis. Acute MCPA poisoning causes liver failure, gastrointestinal symptoms, neuromuscular effects, cardiovascular effects, and respiratory symptoms. Chronic toxicity causes renal failure with metabolic acidosis. Toxicity from MCPA is low compared to other agrochemicals but toxicity is still significant.

Keywords: Agrochemicals, 4-chloro-2-methylphenoxyacetic acid, suicide

AB – 78

Importance Of Diatoms in Drowning: Analyzing Six Deaths

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Abstract

Diatoms/Bacillariophyceae are microscopic unicellular, photosynthetic algae with rigid silicon walls. Diatoms are detected in the body and the study of those in drowning death helps to ascertain the cause of death and the location of drowning. This is re-emphasized in our presented case series. A group of eight adults were bathing in a small river and dragged downstream by a sudden wave of water. Bodies were recovered soon after and a few hours later close to the place of drowning but in six different places. Autopsies which were conducted between 18 to 36 hours,



revealed evidence of immersion, and two cases showed a large volume of froth in the respiratory system with rib indentation. Diatom analysis of all water specimens yielded a large amount of Gomphonema sp. and few Navicula sp. and lung specimens of all decedents were identified as having the same diatoms but less quantity. However, bone samples of three decedents were positive for Gomphonema sp. None of the spleens were positive for any diatom. After the death investigation, the cause of death was stated as drowning and the manner was concluded as accidental at the inquest. The quantity of planktons detected in the water where drowned and recovered is an important factor for the qualitative and quantitative assessment of diatoms in dead bodies. A significant number of diatoms in the lungs and bones supports that the victim was alive and struggled to breathe for a period that was not sufficient for the diatoms to reach the spleen.

Keywords: Diatoms study, drowning deaths, planktons

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Medico-legal Examination of Drunkenness: Reliability Of Laboratory Tests

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Abstract

Introduction: Ethanol is a recreational drug and heavy consumption of alcohol may cause addiction and increases all types of injury and trauma. The objective is to assess the reliability of the electronic breathalyzer and QED (quantitative ethanol detector) saliva test kit as a supportive testing method for the examination of drunkenness.

Methodology: A descriptive cross-sectional study was conducted at the Office of the Judicial Medical Officer, Karapitiya Teaching Hospital. The data were obtained from routine medico-legal examinations of individuals produced by the police for alleged drunkenness. Clinical and chemical tests of medico-legal examination were performed for drunkenness and 112 individuals produced were included.

Results: 100% were male individuals. Drunkenness was prevalent in 88% of individuals in the 35-55 age group. 92% were night consumers. 84% consumed arrack and 16% consumed beer. Concomitant use of marijuana was present in 23%. Clinical tests correlated with history in 86% of cases. Breathalyzer test results correlated with history in 89% of cases. QED test results correlated with history in 67% of cases. Clinical test results correlated with a breathalyzer in 83% of cases. Clinical test results correlated with QED in 72% of cases. Gas Chromatography test results correlated with Breathalyzer in 81% of cases. Gas Chromatography results correlated with QED test results in 68% of cases.

Conclusion: The breathalyzer and QED test results correlated with Gas Chromatography with a p value of <0.05. History, Clinical tests, and Gas Chromatography test results correlated more with the breathalyzer test than with the QED saliva test.

Keywords: Breathalyzer test, drunkenness, intoxication, toxicology

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Ethical and Legal Dilemmas in Removal of Life Supporting System of Brain-Dead Individual - Sri Lankan Perspective: A Case Report

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Abstract

Guidelines issued by the health ministry of Sri Lanka made uniformity in diagnosing criteria of brain death among adult patients, but it has not included accurate time of death, whether it is the time of diagnosis of first or second confirmation of brain death or removal of ventilator. A 45-years-old male was diagnosed as brain dead at a hospital within 12 hours of admission due to a head injury. There was confusion regarding the time of death, whether it was at the time of diagnosis of brain death or the time of the disconnection of the ventilator following a long delay even after the second confirmation of brain death. Forensic pathologists documented that time of death was the time of second confirmation of brain death, but others documented that time of death was the disconnection of the ventilator. Other stakeholders stated that the “lack of clearly printed uniform protocol” made them keep this deceased under a ventilator until a spontaneous stoppage of the heartbeat. It caused conflict in the documentation of time of death and delay in negotiation with next of kin for organ donations according to the ethics. This case highlighted the dilemma influencing the time of death and disconnection of the life-supporting system of brain-dead individuals and also demands an accepted uniform protocol between the stakeholders of the Sri Lankan health care system with the relevant change in guidelines and law.

Keywords: Brain death, Ethical and legal dilemma, Human Tissues Act

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Forensic Anthropological and Medico-Legal Significance of Wormian Bone in A Skull: Forensic Anthropological Analysis

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Abstract

Wormian bones (WB) also known as supernumerary bones are irregular shape bones, that are found along the sutures and fontanelles of the skull. Individual variations can be seen in the size, shape, number, and locations of WB. It can be found in normal individuals as well as in individuals who are having congenital disorders and central nervous system disorders. WBs can mimic fractures in x-ray and CT scans. Furthermore, small WB may dislodge from its position in the skull leaving a defect during the decomposition which can mimic a gunshot wound. An adult skull was recovered from a jungle by the police during a search for a missing person. The initial anthropological analysis revealed that the deceased could be a middle-aged female. There were multiple linear fractures on the left side of the skull caused by the application of blunt force. WB was located on parietal bone; the right-side lambdoid suture and right pterion region were successfully differentiated from fractures. Cause of death and circumstance of death was ascertained as head injury and homicide respectively based on the fracture pattern. This case demonstrates the presence of a different type of WBs and how the knowledge of WB could help in arriving at a correct diagnosis to avoid the erroneous identification of fractures. Furthermore, the presence of WB could be used to positively identify the individual.

Keywords: Forensic anthropology, Skull fractures, Wormian bones



AB – 82**Advanced Multi-Disciplinary Approach Towards Positive Identification of Skeletal Remains**

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Abstract

Identification of unknown skeletal remains to offer a profile of the individual followed by assessment of skeletal factors which aid to identify the cause and the manner of death lies within the scope of the forensic pathologist. The presenting case exemplifies such an approach toward the positive identification of skeletal remains recovered from an abandoned land. Recovered skeletal remains consisted of axial and appendicular skeletons with missing of a few small bones. Preliminary analysis was compatible with that of a middle-aged man. Past-antemortem fractures were noted on the right innominate bone and the sacrum. The data were focused on the possibility of identifying a missing person, 49-year-old man two months prior to the recovery. Pelvic injuries were compatible with the antemortem history of a previous road traffic trauma. Presumptive identification was made with a comparison of dental data and the findings of the skeletal remains with that of the features of the ante mortem photograph of the deceased. DNA comparison was done with the family members and compatible with the identity of the suspected deceased. Toxicology screening was negative, and the cause of death was unascertainable. The possibility of reaching the locus to the deceased where the remains were laid remained undetermined. The multi-staged approach is important in the positive identification of a given skeleton. Interpretation of bone pathologies is a paramount criterion to formulate a possible manner and a cause for the death together with the innovative diagnostic methods. Nevertheless, some unique issues with medico-legal importance on a case basis remain ambiguous even with existing advanced techniques.

Keywords: Anthropology, identification

AB – 83**Examinations Of Users of Drugs: How Far Are the Current Diagnostic Approaches Reliable?**

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Abstract

Introduction: Reliability of the opinion provided to the court of law on substance misuse based solely on clinical examination was frequently challenged in the recent past, stressing the importance of collaborative scientific evidence. The objective is to evaluate and correlate the reliability of clinical diagnosis and chemical screening testing as collaborative evidence in assessing acute and chronic substance abuse.

Methodology: A descriptive cross-sectional study was carried out at the JMO's unit, Teaching Hospital, Karapitiya, and the data including history, clinical features, and laboratory investigations were collected from seventy-two alleged drug abusers produced for medicolegal examination. twelve were excluded and sixty individuals were clinically assessed and referred for psychological assessment and urine drug screening tests.



Results: The majority 58% (n=35) denied consuming drugs during the initial interview and 87% (n=52) of them showed features of neither acute nor chronic drug consumption. The urine screening test was positive for one or several drugs in 95% (n=57) of cases. Eventually, almost all who initially denied consumption of drugs have admitted substance abuse following a positive screening test. 13% (n=8) of them suffered withdrawal symptoms and showed signs of dependency in psychological assessment.

Conclusion: Clinical assessment alone is highly unreliable to formulate an opinion on acute or chronic substance abuse. Point of care screening for drugs has shown significant importance for initial assessment whilst specificity and sensitivity of test kits need to be further evaluated.

Keywords: Cardiac deaths, histology, myocardial infarction

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Nurturing Sri Lankan Medico-Legal Scene Through Application of Scientific Discoveries

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Abstract

Medico-legal practice is one of the oldest branches of the medical field dating way back to 3000 BC. The opinion of the expert was usually admired without scientific debate following great respect earned by medical figures of that era due to the non-availability of counter expertise on most occasions and also the absence of further scientific proof. The infallibility of medico-legal experts is no longer acceptable and expert opinion needs to be backed by reliable scientific foundations and objective ancillary investigations. The objective of this concept paper is to encourage the forensic community to implement digitalized automated analytical techniques and new methodologies as supplementary scientific evidence while forming opinions on medico-legal cases. One of the drawbacks of our medico-legal practice is the limited application of technology and automation, in spite of many technological achievements since the discovery of Archimedes' law of Buoyance to modern robotics that can be applied for medico-legal purposes. Some of the aspects include point-of-care analytical devices for drug testing in the autopsy room, radiation measurers for safety purposes, colorimetric techniques for aging injuries, infrared thermometers for accurate assessment of time since death, and portable radiographic apparatus, immunohistochemical testing of autopsy tissue samples, etc. The use of laser-guided distance measurers at our forensic unit was found to be useful in minimizing errors in the measurement of the length of the body compared to traditional calculations with tapes and rulers. The application of the new technological discoveries will in variably uplift the quality of outcome of the medico-legal services and thereby lead to higher proof in delivery of judgements.

Keywords: Advancement of forensic medicine, digitalization

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From Colonial Coroner to American Medical Examiner: A Way Forward in Sri Lankan Death Investigation System

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Abstract

The death Investigation system (DIS) in a given country is an administrative office, that is essential in many directions. Different DIS are existing worldwide differing in their investigating authority but mainly consist of Coroner and Medical Examiner systems. These systems are indefinitely being modified to be fitted with the advancement of forensic investigations and social needs, and the trend runs towards the medically trained Death Investigator System. Current DIS in Sri Lanka is adopted from the British Coronial system and still being practiced without significant adjustments since 1892, which has given rise to numerous discrepancies. To emphasize the need for establishing the Medical Examiners (ME) System in Sri Lanka and to address the issues in converting to the proposed system. The main drawbacks concerning this conversion in other countries are related to administrative, legislative, financial, and political issues. Nevertheless, every country does not acquire similar challenges, and it's evident that our country may easily accept and overcome the difficulties mentioned above. As an example, the current DIS can be swiftly converted into ME centered approach with minor modifications to the criminal procedure code such as by appointing a Forensic Medical specialist as a death investigator with all the powers of the existing Inquirer into Sudden Death who can conduct inquest to decide whether autopsy examination is necessary or not. This process does not require any infrastructural modifications as well. Stepwise conversion of Coroners to ME in the States of America can be taken into consideration as a role model. This paper highlights the necessity of introducing the ME System in Sri Lanka and rough guidance to overcome the drawbacks.

Keywords: Coroners, death investigation, medical examiner

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Sexual Rights, Consenting Capacity and Contradiction with Local and National Policies and Law of The Psychiatric Patients: A Case Report

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Abstract

Legally, consensual sexual relationships between adults is a right in our society. However, sexual activity is often prohibited by laws for psychiatric patients in Sri Lanka. Unless medically contraindicated, all people, whether competent or incompetent or, single or married, should have the right to engage in consensual sexual activities. A 32-year-old female who was on regular treatment for epilepsy and psychosis was admitted to a hospital with a sudden loss of consciousness following severe vomiting. Her urine HCG revealed pregnancy and Ultrasound Scan confirmed 23 weeks intrauterine foetus. She lived in a separate home for the last three years and had consensual sexual intercourse with her sound-mind long-term partner for one year. Medico-legal investigations excluded the physical forces and the circumstantial evidence confirmed that the patient had consented to sex. However, the Psychiatrist's opinion was that she had severe mental retardation and had no capacity to give consent for sex. According to the law, after the medico-legal examination, the assailant was arrested and remanded. The sexual rights of the psychiatric patients in Sri Lanka are discriminatory and there is a legal vulnerability for partners who engage in sex with psychiatric patients. Similar to other countries, the laws in Sri Lanka should be amended with the help of medical professionals and other stakeholders.

Keywords: Consenting capacity, the law of Sri Lanka, psychiatric patients, sexual rights



AB – 87**Application of Forensic Medicine or Forensic Science in Military Establishment**

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Abstract

Forensic science is undertaken in support of law enforcement investigations, criminal justice prosecutions, intelligence, and military objectives. There are common challenges in the military domain, which affect the delivery of forensic science, including different terminology between organizations, complex operating environments, operating siloes, inward-looking military structures, quality management, and resource constraints. In Sri Lankan Armed forces, have yet to practice forensic medicine as there is a lack of forensic facilities and legal provisions. In countries like the United States of America (USA), India, and Singapore military already have its own Forensic establishments to perform various tasks. In the USA, the Armed Forces Medical Examiner System (AFMES) is committed to being the Department of Defense's (DoD's) leader in providing medical-legal services and emerging technologies essential for the readiness, sustainability, and survivability of their service members. AFMES provides the DoD and other federal agencies comprehensive forensic investigative services, including forensic pathology, DNA Forensics, forensic toxicology, and medical mortality surveillance. In India, there is a Forensic department at Armed forces Medical College, which provides Medico-legal Consultancy Services for the Armed Forces and there is an Armed Forces DNA Profiling Centre and Repository. However, in Singapore, the Singapore Armed Forces (SAF) is the only public institution to raise Forensic Odontologists. Other than that, there are many forensic odontology units established in various countries for identification purposes. In addition, there are many job vacancies worldwide in the military for forensic anthropologists. It is a timely need to establish a military forensic unit to conduct various tasks especially related to matters involving the military personnel and to conduct coordinated tasks with the non-military forensic pathologists.

Keywords: Forensic medicine and science, forensic odontologist, military

AB – 88**Validating Pearson's Formula for Estimation of Stature Modified by Kodagoda**

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Abstract

Introduction: A commonly applied method for stature estimation on adult Sri Lankan samples is modified Pearson's formula which uses femur length to estimate the stature. Femur fragment measurements are also used to calculate the femur length and in turn to estimate the height by the same formula. However, its validity has never been tested though it was recommended by Kodagoda, the original author.

Methodology: 20 Femur bones received by the department of forensic medicine, Peradeniya were used in this study together with observed height, gender, and age sent by the relevant JMOs. Each femur was measured by an osteometry board for its length. Then it was applied to the modified Pearson's formula to estimate the stature.



Results: A paired-samples t-test was conducted to compare the calculated stature from modified Pearson's formula with actual stature. There was no significant difference between the estimated height (M=166.3cm SD= 6.83)) and actual height (M=166.7cm, SD= 8.74); $t = 0.175$, $p = 0.863$, $df=19$. A Shapiro-Wilk test revealed a departure from normality $W = 0.952, 0.899, p=0.395, 0.039$. However, it can be considered as near normal, further, the two distributions have equality of variances, $f=0.742, p=0.395$.

Conclusion: These results suggest that modified Pearson's formula can be applied to estimate the stature in Sri Lankan samples. Limitations of this study are the small sample size, inter-observer variation in measurements, and not investigating the outliers. Further studies to prove this concept with a larger and well-defined sample and methods are warranted.

Keywords: Modified Pearson's formula, Stature estimation, Femur length

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Knowledge Regarding Workmen Compensation Among Patients Admitted to Three National Health Units in Colombo, Sri Lanka

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Abstract

Introduction: Workplace injuries (WI) have become an inevitable, rising issue. Many insurance companies and employers inform the employees that they cannot claim for the WI as they have failed to report the accident properly. There has been limited research regarding the knowledge on compensation among the employees. The aim of this study was to determine the level of knowledge regarding compensation and other eligible benefits among patients admitted to the national hospital of Sri Lanka (NHSL), national eye hospital (NEH), and national dental hospital (NDH), Colombo.

Methodology: This prospective, descriptive study is based on the cases of injured workmen more than 18 years of age, who were admitted to the above three hospitals from August 2017 to September 2019 with workplace unintentional injuries.

Results: Of the 298 cases included in this study, 89.3% were males. Half of the participants had an insurance policy and out of them, the majority (87%) had workplace insurance. Out of all, nearly three-fourths of the participants had adequate knowledge regarding compensation and other eligible benefits. Out of 222 participants, nearly half of the participants (52 %) knew that they can claim compensation from private insurance and 29% of participants knew that they could claim compensation from workmen compensation.

Conclusion: The present study identified that the majority of the study participants had adequate knowledge of available compensation types in Sri Lanka.

Keywords: Knowledge, workmen compensation, workplace injuries



AB – 90**A Fatal Case of Chloroxylenol Poisoning: Is It Accidental?**Lakmali WAC¹, Samaranayake R²¹Office of the Judicial Medical Officer, Colombo East Base Hospital, Mulleriyawa, Sri Lanka²Department of Forensic Medicine and Toxicology, Faculty of Medicine, Colombo, Sri Lanka**Abstract**

Dettol is a common household disinfectant. The components are chloroxylenol (4.8%), pine oil (9%) and isopropyl alcohol (12%). A fatal case of poisoning with this agent is reported. A 62-year-old female with a history of congenital abnormalities with contractures of limbs and epilepsy was at hospice care for 23 years. According to the caring authorities, although she was conscious, and bedbound, she was able to manipulate her right upper limb. A caretaker has kept a “Dettol” bottle on a table, which was kept near her bed. Later she was found unconscious and admitted to a tertiary care hospital. She died 26 hours after admission. A co-worker, who is not on good terms with the caretaker had complained that she had forcefully ingested chloroxylenol and that suicide was unlikely as she was unable to manipulate her limbs due to contractures. At autopsy, it was also evident that the right upper limb is free of contractures. There were corrosive burns in the lips, oral mucosa, larynx, and the oesophagus. Patchy hyperaemic areas with erosions were present in the stomach. The lungs showed evidence of pulmonary oedema and bronchopneumonia. The toxicological analysis revealed chloroxylenol (Dettol) in the samples of blood, bile, stomach contents, and intestine contents. Toxicological studies confirmed that was chloroxylenol. The history and the autopsy findings revealed that her right upper limb is free of contractures and deformities. Therefore, ingestion of Dettol by herself is also a possibility if a Dettol solution was kept at a reachable distance. In our opinion, this was more likely accidental than suicidal.

Keywords: Chloroxylenol, Dettol poisoning**AB – 91****Issues Arising in Mandatory Inquest and Autopsy Procedure in A Late Death Following Poisoning**Fernando GWNIS¹, Gangahawatte SDS¹, Fernando K¹, Perera WNS², Samaranayake R³¹Office of the Judicial Medical Officer, Base Hospital, Balapitiya, Sri Lanka²Department of Forensic Medicine, Faculty of Medicine, Ragama, Sri Lanka³Department of Forensic Medicine and Toxicology, Faculty of Medicine, Colombo, Sri Lanka

When a protracted death occurs in a ward, following ingestion of poison due to suicide/homicide, ordering an inquest is the routine practice. The criminal procedure code states a complete autopsy is mandatory and legitimate, failing to do so creates immense issues. A 79-year-old male was brought to the hospital following ingestion of poison and on the twenty-second day succumbed to death. The cause of death given by the ward was multi-organ dysfunction syndrome following multi-drug resistance. The body was released without an inquest, with a death certificate. To prove the cause of the death as poisoning is a challenge because no traces will be available in blood samples as T_{1/2} is over. The telltale marks would have disappeared except for scars and late complications of poisoning which are nonspecific. In this case, no positive findings were found. The body was released without inquest negligence to duty. The clinician's opinion, documents, and external examination are not enough to come to a scientific conclusion. However, an autopsy might challenge the cause of death because autopsy and embalm artifacts will create doubts. The staff face health and occupational hazards. The ethical, financial issues, and trauma confronted by family, health staff, and government are immense. A magistrate order is an extra burden to the judiciary. What is the plight of the death certificate? It's an eye-opener to plan and organize continuous education of the health staff including preservation of anti-more samples to avoid such reparations.



Keywords: Complete autopsy, inquest, poison

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Paradigm Shift in Teaching Forensic Medicine; A Pandemic Based Necessity: A Concept Note

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Abstract

The COVID-19 global epidemic puts people at risk of creating life-threatening situations, presenting significant challenges for medical education. However, it is also likely that the pandemic will also be considered a facilitator for transforming medical education. Today the internet is a powerful tool to access knowledge in all areas of teaching and learning. In the current setup, online teaching-learning modalities have opened a new chapter in all types of education, including medicine. Therefore, it can be adopted to teach Forensic Medicine as well. If planned and assessed correctly, forensic medicine could be taught very effectively through online methods. Develop an e-learning module to teach Forensic Medicine and deliver appropriate self-learning and pedagogically sound e-Learning content using Information and communication technology tools. Evaluation of the existing curriculum to determine the content of the curriculum and method of delivery. An expert panel has to be appointed to study this and recommend to the board of study the mechanism of integrating the online teaching-learning system into the curriculum. This needs analysis of several factors. Different dimensions of e-learning should be considered in including methods like zoom lectures, video demonstrations, flipped classrooms etc. Shifting towards a blended teaching-learning environment is necessary today, particularly under the threat posed by the pandemic. When applying e-learning activities to medicine, a detailed assessment is necessary. As Forensic Medicine is a practical and skills-based discipline shifting to e-learning has to be carefully planned.

Keywords: Disruption of education, e-learning module, Pandemic, Technology

