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Oral Presentations

01: Forensic Pathology

OP-01

Death Investigation: Does Postmortem Scavenging by Animals Always Make it Difficult?

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Abstract

Animal activity on corpses during postmortem period plays an important role in maintaining the food chain. However, when a body is found outside and subjected to scavenging by animals it affects the death investigation process in most occasions. Scavenging by water monitors is fairly common in Sri Lanka. This is a case of finding of eight dead water monitors which actually helped in determining the cause and circumstances of death. A 51-year-old man went missing on 06th December 2017 and his partly mutilated body was found two weeks later. He also had a history of poor sleep with probable depression. On visiting the scene partly decomposed and partly mutilated body of a human was found with bodies of eight dead water monitors in the vicinity. On searching for more clues an empty bottle of Carbosulfan was recovered. Postmortem scavenging by water monitors is a known phenomenon in Sri Lanka. However, finding of dead bodies of several water monitors in close vicinity and the presence of dead flies on the body raised a suspicion of some kind of poisoning involved with the case. Advanced degree of putrefaction made it impossible to obtain samples for toxicology but the absence of any injuries apart from scavenging indicated the death possibly due to poisoning. Although animal scavenging usually result in investigation of dead difficult on this instance the task was made easier by the scavengers.

Keywords: Water monitors, postmortem scavenging, poisoning

OP-02

Reflect On Development of Management of Deaths in Disaster Situation Reported to North Colombo Teaching Hospital, Ragama

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Abstract

Disaster preparedness in the health sector has been in operation in Sri Lanka after Tsunami 2004. Regular training and updating take place annually. After responding to disaster victims of April bombings 2019, NCTH Ragama reviewed and updated its disaster preparedness and response plan of the hospital. Although forensic experts from Ragama attended to the management of dead from crime-scene to postmortem examinations in April bombings, the hospital plan had no place in the management of the dead except informing JMO. Therefore, experts from medico-legal unit Ragama together with the PG trainees conducted a spot analysis on the available resources (manpower, instruments, spaces and infrastructures) and drafted an action plan based on the National Guidelines on Management of Dead in Disasters and Catastrophes 1st Edition 2016. The plan has eight action stations and standard operational procedures

PP-11

Sudden Death from Pulmonary Thromboembolism in a Female with Polycystic Ovarian Disease

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Abstract

Polycystic ovarian disease (PCOD) affects approximately 20% of females in reproductive age groups. It is a condition with evidence of anovulation, androgen excess, metabolic abnormalities and increased cardiovascular risk. A large number of studies have shown a risk of venous thrombosis in PCOD in association with pregnancy, oral contraceptive therapy or obesity. A middle aged female with a history of subfertility and multiple fibroids was found dead at home. Autopsy revealed she was moderately obese and had hirsutism. Internal examination revealed a 25x20cm enlargement of the left ovary with multiple compartmentalised cysts. Multiple uterine fibroids and endometriosis were also seen. Examination of the left iliac vein revealed a thrombotic mass extending upto the femoral vein. The cause of death was a large antemortem thrombus occluding the pulmonary artery. The husband knew about the fibroids and subfertility but was unaware that the deceased had polycystic ovarian disease. Unfortunately, no medical records were available. The risk of thrombosis in PCOD is believed to be due to higher levels of Plasminogen Activator Inhibitor 1 (PAI-1) which leads to a hypo-fibrinolytic state. In this case, it is likely that venous congestion from the large abdominal mass would also have contributed to the development of thrombosis. Though PCOD is a common condition in females, sudden deaths from venous thrombosis have not been reported. The adequacy of communication and clinical follow up despite being investigated for subfertility is a matter of concern in this case as it would have easily prevented this death.

PP-12

Rare Case of Accidental Hanging of Little Priest in the Temple

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Abstract

Hanging is a common method of suicide among all age groups, while accident hanging is rare occurrence in forensic practice. Homicidal hanging reported in several occasions after incapacitation of victims following head trauma, drug or alcohol intoxication. However in children, it is usually accidental leading to death due to asphyxia as a result of partial or complete hanging. This case is a unique as partial hanging occurred as a result of swinging in a bed using own waist band. According to literature several similar incidents have occurred while children play with hammock and swings. However this case could be the first case reported from a temple in Sri Lanka. The pathologist faced dilemma in death investigation and considered psychological autopsy than routine medico legal autopsy. A 13-year-old priest was found dead hanging from a raft of bed canopy with his waist band in the room of the head priest. He was an active child and used to watch television in the room of the head priest. He used to perform several heroic activities imitating the ones that were broadcasted in the television such as climbing trees using ropes. Historical evidence, scene visit, autopsy examination did not reveal any features to suggest homicidal hanging. No evidence of sexual abuse or illicit drugs usage during investigation process. Accidental hanging is rare among all age groups, even in adults except in autoerotic context. Concluding the circumstances of death based on historical findings alone may lead to injustice. Therefore, thorough scene investigation, detailed autopsy examination and toxicological analysis are essential before coming to a conclusion. Unless there is strong scientific evidence, forensic experts cannot confirm or exclude allegations.

Keywords: Accidental hanging, Priest, scene investigation

PP-13

Case of Death Due to Pneumothorax Following Bougie Assisted Endo Tracheal Intubation

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Abstract

Endotracheal tube introducers (commonly known as bougie) help the anesthetist in securing the airway during an unanticipated difficult intubation. Traumatic complications with bougies are rare but serious. We report a case of an unanticipated difficult intubation with bougie led to bronchial injury causing pneumothorax and death. A 40-year-old male was admitted with fracture of femur following a fall from bicycle. After control of diabetes, he underwent a proximal femoral nailing for sub trochanteric fracture of femur under subarachnoid block and as its effect was wearing off as the surgical procedure was prolonged, he was switched on to General anesthesia with bougie assisted intubation following two difficult attempts. Soon after intubation patient died on the theater table despite prolonged resuscitation. At autopsy there was subcutaneous emphysema, traumatic perforation of right bronchus with right sided pneumothorax. Trauma to airway following Bougie assisted endotracheal intubation is rare as it's flexible but potentially life-threatening. Clinical signs develop immediately or shortly after intubation or can be delayed. There are reported cases of bronchial perforation in bougie assisted intubation which were diagnosed and managed. Diagnosis is reliably obtained with fibre optic bronchoscopy, which should be performed if subcutaneous, or mediastinal emphysema occurs after intubation. This was not performed in this case as it was not suspected, which would have aided diagnosis.

Keywords: pneumothorax, Endo-tracheal intubation, bougie

PP-14

Death Due to Peri Partum Cardiomyopathy

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Abstract

Peripartum Cardiomyopathy is an idiopathic dilated cardiomyopathy, clinically presents with systolic dysfunction. The European society of cardiology has defined it as, heart failure which occur at the late stage of pregnancy or in the early post-partum period, where other causes of heart failure is excluded. The risk factors include pre-eclampsia, advanced maternal age and multiple gestational pregnancy. The deceased was a 21 year old mother of one baby who delivered at 36 weeks of gestation with no past history of any illness. She was admitted after 9 days of the delivery due to shortness of breath for few hours and mild non-productive cough, difficulty of breathing at night and increased swelling of ankles during last one week. She had no fever, abdominal pain, urinary symptoms, skin sepsis, or fits. 2DECHO study showed severe global hypokinesia, with an ejection fraction of 10% . She died on 10th day after delivery. Autopsy revealed 300g enlarged dilated heart, pulmonary oedema and poor renal cortico -medullary demarcation. Toxicological analysis was negative. All tissue sections were histopathologically unremarkable. Cause of death was pronounced as heart failure following dilated Cardiomyopathy during puerperium. Peri -partum cardiomyopathy is a cause of death diagnosed mainly by exclusion. Therefore constellation, corroboration and correlation of antemortem history and clinical investigations with autopsy macroscopy, histopathology, and toxicology are important. When clinical diagnosis is not available, detection of peripartum cardiomyopathy at autopsy will be possible only with dilated heavy heart and pulmonary oedema with exclusion of other causes of death.

Keywords: Peri partum death, cardiomyopathy, global hypokinesia

PP-15

Reflection of a Trainee upon Participation at Katuwapitiya Postmortem Examinations

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Abstract

Autopsy procedures in a mass disaster deviates from routine practice, as the requirements and the management would vary according to the disaster, number of victims and the availability of the resources. Reflection of postmortem examination at Katuwapitiya Easter Sunday suicide bombing enables a trainee to develop many skills from administration, practical skill in autopsy to public handling in disaster situation. All the dead at the scene were brought to Negambo Hospital. It enabled the family members who to come for visual identification quickly. A temporary mortuary was set up while preliminary identification was done through digital photographs. The main aim of the autopsy was to identify the victim and handover the body to the family as soon as possible. The voluntary doctors who conducted the autopsies employed different methods, such as external examination and recording injuries, limited autopsies or full autopsies based on individual preferences. Despite many limitations nearly 110 dead bodies were handed over to the relatives within 36 hours of the explosion. This expeditious service prevented any unwanted commotion among the public. Consultant JMO Negambo who visited the scene soon after the explosion was present when the autopsies were performed, and he was able to reconstruct the relative position of the victim to the epicenter, considering the distribution of injuries, which helped the trainee to practically experience event reconstruction. Uniformity in postmortem examination is not possible in disaster situation unless pre-preparedness is strong. The experience for trainee is not measurable to reflect the practice to accepted guidelines.

Keywords: bomb blast, reflection, post-mortem examination

PP-16

Intrathoracic Complication of Acute Pancreatitis; A Case Report

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Abstract

Acute pancreatitis is generally a treatable & self-limiting clinicopathological condition but life threatening complications can develop in 20% of cases. Occurrence of Intrathoracic complications following acute pancreatitis is a rare condition but it has significant mortality. Pancreatic pleural effusion & enzymatic mediastinitis are rare complications but having very high mortality. Therefore extra degree of vigilance should be maintained in this type of case. A 29-year old male was admitted to a tertiary care hospital with generalized abdominal pain, backache and vomiting of three days duration. Examination and investigation confirmed it to be a case of acute pancreatitis and patient was managed in the ICU. Eventually he developed multiorgan failure & left side pleural effusion & died on 10th day of admission. Autopsy revealed necrosis of the pancreas with affected tissues around. Examination of the thoracic cavities revealed evidence of pleural effusion, pericarditis saponification over the pericardium. Intrathoracic cavity we noticed fat saponification over pericardium (outer & inner surface of parietal pericardium), macroscopic features of pericarditis, parietal pleura of the left hemi thorax. The pericarditis and pleural effusion were marked on the left side. Intrathoracic complications following acute severe pancreatitis are uncommon & having significant mortality & morbidity. They include pneumonia, pancreatic pleural effusion, more rarely enzymatic Mediastinitis. Pancreatic pleural effusion & enzymatic mediastinitis are rare complications but having high mortality. Pancreatic pleural effusion (involve left side in 2/3rd of cases) is followed by the formation of a pancreatic pleural fistula which is a rare complication that may follow in acute severe pancreatitis. Enzymatic mediastinitis is a further rare occurrence which followed by the enzymatic digestion of parietal peritoneum with leakage of pancreatic fluid through the

esophageal or aortic hiatus to the mediastinum. To diagnose these conditions, need high suspicion and relevant radiological investigations.

OP-17

Surviving Lightning Strike; A Case Report

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abstract

Lightning is one of the oldest phenomena on earth. During its passage through air it liberates massive amount of energy in the form of heat. It produces a current of 100000-200000 A with a voltage up to 20 Millions of volts. Injuries following lightning strike result due to massive current, flash-fire effects or blast wave effect. The two victims were sailing in the sea on a rainy day, were struck by lightning. **Case 01:** A 45 year old man was struck by lightning while at sea at the night & admitted to TH Karapitiya. According to the history he has got bilateral limb weakness & paresthesia for few minutes which disappeared later. On admission his clinical parameters were unremarkable. The physical injuries included deep laceration in a sole, superficial burn, bilateral ear drum perforation, singeing of hair at lower limbs. With time he developed rhabdomyolysis which leads to renal impairment. But he did not go in to acute renal failure due to proper medical management with good hydration. **Case 02:** This 40-year-old person was the 2nd victim of the same incident. According to the history given by his friend, he has got neurological deficits for about 30 minutes. On admission to the hospital he was conscious & rational. His vitals were unremarkable. The prominent injury was full thickness burn involving 30% of body surface area. He also got bilateral ear drum rupture. Eventually he developed rhabdomyolysis. He did not develop any signs of electrocution. During a thunderstorm, each flash of cloud-to-ground lightning is a potential killer. The determining factor on whether a particular flash could be deadly depends on whether a person is in the path of the lightning discharge. When considering the injury pattern of these victims they have got mainly burn injury which is a feature of lightning while wearing wet cloths. That may be reason for surviving these victims without gaining life threatening complications. Death from electric shock usually results from cardiac or respiratory arrest. Passage of current through the heart usually produces ventricular fibrillation, and involvement of the CNS may affect the respiratory or other vital centers. Sea is a high risk environment for the lightning strikes. There are multiple cases recorded each year. Therefore, educational programs for fishermen and other marine related workers regarding how to escape from this situation is an important task.

PP-18

Maternal Death Following Rheumatic Heart Disease Revealed at Autopsy

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Abstract

The causes of maternal mortality and morbidity are changing its causes from direct obstetric to an increasing proportion of indirect causes worldwide. This is true even in Sri Lanka, where in 2015, 64% of maternal deaths were due to indirect causes. Preexisting cardiac disease is a major contributor to indirect causes of maternal mortality, particularly in low- and middle-income countries. Congenital heart disease accounts for most antenatal heart disease in high-income, industrialized countries but this pattern differs greatly from in low- and middle-income countries, where 88% to 90% of antenatal heart disease is attributable to Rheumatic heart disease (RHD). RHD is considered as the disease of the poor, and sometimes people in the rural areas tend to hide facts, especially during their marriage,

resulting in undesired fatal outcomes. We present a case of maternal death following heart disease, in her third pregnancy, where there was no history of rheumatic heart disease. She presented in her third trimester, in a twin pregnancy, with difficulty in breathing for which she was treated as wheezing at a peripheral hospital. Though she was transferred to a tertiary care hospital and given ICU care, passed away after delivering two babies through LSCS. At the autopsy there was a tight MS with fixed vegetations, with evidence of chronic pulmonary hypertension. Histopathology revealed rheumatic nodules with anitschikow cells confirming chronic rheumatic carditis.

Keywords: Indirect causes of maternal death, Rheumatic carditis, Rheumatic nodule, anitschikow cells

PP-19

Two Cases of Intracranial Tumors Leading to Maternal Death

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Abstracts

The brain tumors are rarely diagnosed in pregnancy. The maternal mortality rate due to tumors is 1.23 per live birth and among them, higher incidence of deaths was reported due to brain tumors. According to the literature it has been found that pregnancy has a significant influence on the speed of growth of brain tumors as a result of hormonal changes, increased level of growth factor and angiogenic factors that are associated with the pregnancy. Increase in the maternal age is also considered as a risk factor for the development of the tumors. These tumors and their complications may lead to sudden deaths. We discuss late maternal deaths of two elderly primi females who were previously well and developed neurological decompensation during and after the pregnancy. In the first case, the mother was diagnosed to have meningioma during the latter part of the pregnancy and surgical intervention was done after the delivery and in the second case, the glial tumor was diagnosed only during postmortem. Complications of tumors were the cause of death in both cases and were confirmed by the postmortem histopathology. Different pathophysiologies of tumor growth during pregnancy and specific histopathological features and complications of both will be discussed here.

Keywords: intracranial tumours, maternal death, meningioma

PP-20

Injury Pattern Analysis of Riders Who Riding Front Foot Rest of Scooter Bikes

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Abstract

Introduction: In Sri Lanka most of the middle class families use “scooter/scooty” as a family vehicle. Mostly children travelling on front foot rest of the scooter and they are more vulnerable to sustain injury during the road traffic accident. The primary aim of this study analyze the injury pattern in children who injured while travelling on front foot rest of the scooter bikes.

Methodology: This is a retrospective study based on the findings of the medico legal examinations conducted during a period of 2 years at Institute of Forensic Medicine and Toxicology, Colombo. Rider of motor bike and pillion riders were excluded from the study.

Results: Out of the 52 clinical cases, there were 38 Females and 14 males. They are between 4 to 12 years. A majority of them (43%) have contusion over the face. They sustained other injuries such as lip laceration (30%), dental subluxation, avulsion of tooth...etc. Only one case sustained depress skull fracture with traumatic brain injury.

Conclusion: These types of injuries are caused by deceleration. Children are more vulnerable to sustain injury while travelling on front foot rest of scooter. Section 158 of Motor traffic act of Sri Lanka prohibits this type of riding in motor bikes. Legal authorities should take necessary steps to implement this type of ride.

Keywords: Scooter, Children, Injury pattern, Road traffic accident

PP-21

The Value of Ancillary Investigations to a Cause of Death; a Case Report

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Abstract

A thorough and extensive ancillary investigation with macroscopic and microscopic findings will eliminate the discomfort of ending an autopsy without proper cause of death. A 32-year-old female has had a backache and treated with diclofenac sodium by a general practitioner. Four days later she developed a severe headache, vomiting and generalized body ache, platelet count of 14,000 cumm. Rapid Test for Dengue IgG negative. IgM weakly positive. She was tachycardiac and hypotensive. Her WBC was gradually rising, Hb and HCT were dropping, and platelet count fluctuating, CRP rising. Autopsy revealed anterior descending artery was 80% without myocardial fibrosis. Histology revealed-myocardium multiple focal hemorrhages with neutrophil infiltration and myocytolysis. Lungs focal infarction, hemorrhage and infection (past) activated lymphocytes. Liver massive fatty infiltration, centrilobular necrosis. Pancreas occasional fatty infiltration, fibrosis and blood vessel thickening. The macroscopy findings were very nonspecific. The histopathology helped to narrow down the investigation. A viral myocarditis was excluded because dengue was in picture from the beginning; the comparative analysis of lymphocytes was not sufficient enough to confirm the same. The coronary artery occlusion arose the suspicion of myocardial infarction but histology confirmed it as a myocyte cellular reaction to hemorrhage and not as an ischemic event. However, the hypovolemia due to existing condition could cause arrhythmias causing death which is not possible to prove. Another suspicion was a spirochete sepsis since there was multi organ dysfunction which could not find a focus. This case highlights the importance of ancillary investigation specially biochemistry to ascertain the cause of death. After an extensive evaluation of her findings with available literature, multi organ failure complicating dengue myocarditis and sepsis was concluded as the cause of death.

PP-22

Death due to Multiple Injuries

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Abstract

It is a challenging task to interpret causation of multiple rib fractures without internal damages or macroscopic consequences when circumstances are not suggestive. It further complicated when associated with other co-existing ailments which are not adequate to cause death. The present case highlights the importance of considering the overall

findings before finalizing the cause of death. The deceased was a 53-year-old adult female. Both husband and she stayed inside the hotel room and drank alcohol throughout the day. Floor became slippery due to accumulation of urine where the victim has repeatedly fallen-off. Also she threw glass bottles to the floor. Husband has made several unsuccessful attempts to take her to bed during which she has fallen again slept on the floor. Following day morning, she was found unconscious. The body was that of an averagely built well-nourished fair-skinned woman. Subconjunctival haemorrhage and congestion of eyes were noted without petechial haemorrhages. The multiple abrasions and contusions of varying sizes, shape, directions, and overlapping with each other were present all over the body. Internally there was an acute subdural haemorrhage without skull bone fractures. There were multiple rib fractures with minimal bleeding in both sides present on anterior, lateral and posterior but no fractures in bone or cartilage in the neck, no internal haemothorax or haemoperitoneum. The main autopsy finding of this case is multiple rib fractures that are a potentially fatal lesion, especially in association with internal bleeding. Multiple rib fractures without haemothorax and pneumothorax are rare in occurrence the rib fractures cause severe pain that leads to restriction of respiratory functions by limitation from pain or by mechanical limitations. Death by subdural haemorrhage or alcohol (71mg/dl) itself is not sufficient. Mechanism of death should be is the combined effects of all. The possibility of death by poisoning and addictive drugs were excluded by the Government analyst This case highlight the importance of doing thorough post mortem examination and interpretation of all findings should be considered to arrive at the cause of death.

Keywords: Multiple injuries, abrasions, contusions