Risks, hazards and safety in mortuaries

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Abstract

Persons working in the mortuaries face numerous hazards and if proper precautions are not observed such persons can fall sick by the infectious agents. A review has been carried out to find out the various agents responsible for causing infection in the mortuaries. Practices in the mortuaries that can cause harm to the workers have also been reviewed. The various methods that can reduce or eliminate the chances of such infections and precautions to reduce the hazards in postmortem examination have also been reviewed.

Keywords: Autopsy; mortuary; infection; hazards; risks; postmortem examination

Introduction

The mortuary can be a dangerous place. Most dangerous in this environment is the individual who is ignorant of, or who ignores, the potential hazards at necropsy. Such people are a liability to themselves. The postmortem room is a source of potential hazards and risks to the pathologist and anatomical pathology technician (who have the highest rate of necropsy related morbidity) (1), but also to visitors (clinical staff /students) & those handling the body after necropsy i.e. relatives & crematoria staff (2), or material derived from it laboratory workers (3).

There is a considerable body of literature and legislation pertaining to the design and provision of a safe working environment and safe working practices within the mortuary (4) (5).

This review will focus on specific dangers faced at necropsy. Such dangers include: the acquisition of "category 3" risk pathogens (Advisory committee on dangerous pathogens, 1990 & 1996), injuries (with concomitant dangers of haemorrhage and sepsis), dangerous foreign objects, spills of body and body fluids and results of chemicals and /or radiation.

A) Risks and Hazards

Although these terms are often used interchangeably, they are not synonymous in the context of health and safety. The danger of injury posed by a slippery floor, the sharp corner of a table, the blade of a knife or saw, or the point of needle represents a hazard. In contrast, the chance of acquiring a blood borne infection such as hepatitis B virus (HBV) or Human Immunodeficiency Virus (HIV) from a sharps injury represents a risk (4) (6).

Contact with human remains present a hazard of developing infection. Microorganisms have been classified into four hazard groups according to the Safety, Health and Welfare at Work (Biological agents) Regulations 1994 on the basis of pathogenicity to humans, risk to persons working with microorganism, ex., laboratory workers, and transmissibility to the community, and availability of effective prophylaxis.
HAZARD GROUP 1- An organism that is unlikely to cause human disease.
HAZARD GROUP 2- An organism which can cause human disease and might be hazard to employees, although it is unlikely to spread to community, and

in respect of which there is effective prophylaxis or treatment available.
HAZARD GROUP 3- An organism which can cause severe human disease and presents a serious hazard to employees and which may present a risk of spreading to community, though there is usually effective prophylaxis or treatment available.
HAZARD GROUP 4- An organism which causes severe human disease and is a serious hazard to employees and which may present a high risk of spreading to community and in respect of which there is usually no effective prophylaxis or treatment available.

Infections in autopsy room may be acquired by one or more of the following routes:

a. A wound resulting from an object contaminated with blood or body fluid or needle stick injury.
b. Splash of blood or other body fluid onto an open wound or area of dermatitis.
c. Contact of blood or other body fluids with mucous membranes of the eyes, nose or mouth.
d. Inhalation and ingestion of aerosolized particles.

Any procedure that may result in infection through one of these routes constitutes a hazard (6).

The High Risk (of Infection) Necropsy

Occupationally acquired infections, particularly "hazard group 3" risk infections, can have a devastating impact on the health care workers (7) (8). The principal biological risks faced by mortuary workers are the infections caused by *Mycobacterium tuberculosis*, the blood borne hepatitides, HIV, and agents responsible for Transmissible Spongiform Encephalopathies (TSE), such as variant Creutzfeldt-Jacob disease(v-CJD) (3). All of these pathogens retain their infectivity after death (9) (10) (11) (12).

Such diseases are frequently asymptomatic and may be present without morphological evidence at necropsy (13). The presence of such pathogens may not become known until after gross examination (13) (14).

It is important to have a brief overview of various infectious diseases to which the mortuary staff is exposed.

Mycobacterium Tuberculosis

Staff working in the mortuary is at high risk of occupational infection with *M.tuberculosis*. Pulmonary tuberculosis accounts for approximately 90% of cases and is acquired by inhalation of aerosols or dried material (15). Cutaneous infection accounts for 5-10% of cases, the bacillus being introduced into previously traumatized skin or via a skin puncture (16). Mucocutaneous transmission of tuberculosis has not been reported (15). There are well documented cases of tuberculosis developing after exposure at necropsy. The patient with tuberculosis may be more infectious at necropsy than during life (17). Kantor (13) observed a similar preponderance of nosocomial infection among postmortem workers.

Hepatitis B and C

Hepatitis B virus is the most transmissible of the blood-borne viruses.HBV is highly infectious and transmission can occur following exposure to extremely small volumes of infected blood (3). Infection with hepatitis B virus can produce a chronic infection that places the individual at risk of death from chronic liver disease or primary hepatocellular carcinoma. Increased risk of hepatitis B virus infection has been found among health care workers especially those having frequent contact with blood and/ or exposure to needles or sharp instruments (18) (19).

The pathologists have been recognized as a high risk group for occupationally acquired hepatitis B virus because of their exposure to blood (20). The prevalence of HBV, HCV and HIV infection is higher in the cases examined by forensic autopsy & constitutes a higher percentage of drug addicts, particularly the intravenous users (CDC) (21). Surveillance of forensic medicine personnel or health care workers suffering sharp injuries suggests that the overall chance of acquiring infection by this route is about 5 %, although if the contaminating blood contains 'e' antigen (HBeAg), the risk of infection may be as high as 30% (CDC) (21). This virus is about 100 times more transmissible than HIV as blood borne as well as by aerosol.

Hepatitis C virus infection is responsible for the majority of cases of parenterally transmitted Non-A, Non-B hepatitis and is known to produce a persistent infection that is often associated with chronic liver disease (22). The transmission of hepatitis C virus is associated with direct percutaneous exposure to blood such as through transfusion of blood or blood products; transplantation of organs from infectious donors and sharing contaminated needles among injection drug abusers (23). Persons associated with postmortem examination and other health

care workers experiencing needle stick injuries are at a countable risk of acquiring hepatitis C infection.

However, the risk of occupational acquisition of HBV is extremely low and indeed fell steadily between 1985 and 1993, largely as a consequence of routine pre-exposure vaccination among health workers (24). Staff who has not been vaccinated against HBV should not be engaged in post mortem work (25).

In contrast, HCV is less infectious than HBV, but no vaccine exists. Occupational acquisition of HCV has been reported in health care workers and the rate of transmission after percutaneous exposure is 2-10% (25) (26).

Human Immunodeficiency Virus (HIV)

The nature and the magnitude of the danger posed by AIDS to the world can be gauged by the reports that, it is killing six persons every minute worldwide; the figure is said to be rising every hour.

Body fluids responsible for transmitting the HIV include blood, semen, vaginal secretions, cerebrospinal, peritoneal, amniotic, pericardial and synovial fluids. The greatest concern remains the dead body of undiagnosed patient. HIV serophobia has been documented among staff working in mortuaries handling high risk cases since the 1980s (27) (28) (29) (30) (31). Although there is no evidence that HIV is readily acquired in the mortuary. The necropsy is a valuable investigation in patients who have died from AIDS because it permits clinic-pathological follow-up, elucidation of the descriptive clinical pathology and epidemiology of HIV disease, validation of end points in clinical trials, assessment of drug efficacy and toxicity, accumulation of tissue for further research, and medical education (27).

Consequently, it is difficult to justify refusal to undertake the necropsies on patients with such infections (27) (32) . However, pathologists and other mortuary workers should not undertake such cases if they are themselves immunosuppressed and hence at risk of acquiring opportunistic pathogens from such cases.

The HIV is of low infectivity as compared with other blood borne viruses such as Hepatitis B and C. Deep injury, visible blood on the device causing the injury, injury with a needle used in a vessel, and injury with hollow bore needle, all increase the likelihood of a larger inoculum of blood entering the recipient. Other factors such as penetration of needle through latex gloves also the risk of transmission (33). The first case of occupationally transmitted HIV infection was reported in medical literature in 1984 (34). In the surveillance conducted by CDC, at least 54 health care workers in the USA have had HIV infection developed after occupational exposure (CDC) (35) .

Postmortem samples have been reported HIV positive in about 6 to 15 % cases (36). The risk for infection among medical and laboratory personnel including mortuary workers is considered as low but resembles the rates for single contact heterosexual transmission (37). Infection risk due to needle prick is estimated at 0.3 to 0.5%. HIV does not survive for long periods with drying but postponement of autopsies in known AIDS cases does not eliminate risk of contamination by HIV.

According to a report, viable HIV was isolated from blood obtained 16 days after death (38). Other studies have shown that viable HIV can be isolated from cranial bone, brain, CSF, lymph node, spleen and blood (39) (40) (41) up to 5 days after death, when stored at 6°C. Outside the body, the virus is not hardy, and is inactivated by drying and by several disinfectants, including a 0.5% solution of sodium hypochlorite, 4% buffered formaldehyde solution, 50% ethyl alcohol, 1% glutaraldehyde, 3% hydrogen peroxide, phenolic compounds and iodophorcompound (32) (42)

Transmissible Spongiform Encephalopathies (TSE)

The risk of acquiring the prions responsible for transmissible spongiform encephalopathies including Creutzfeldt Jacob disease (v-CJD) is considerably less. The agents responsible for TSE are extremely resilient. They are not killed by formalin and resistant to routine methods of physical and chemical decontamination (43). Given the prolonged latency of these disorders, evidence of an occupational risk to a post mortem room workers remain circumstantial.

Hazard Group 4 Risk Pathogens

Performing autopsies on persons who have died of Viral Hemorrhagic Fever (VHF) poses even greater risk. Many pathologists and their assistants have died of autopsy transmitted Ebola, Marburg and Lassa hemorrhagic fevers (44). However, none of these persons were reported to be injured during dissection because of proper utmost care.

Miscellaneous Infections

Infectious aerosols are composed of air borne particles, which can remain suspended in air for

long periods of time. When inhaled, they cross the upper respiratory passages and reach the pulmonary alveoli.

Aerosols are generated by aspirators, oscillating saws and water hoses, when applied to the dead bodies, even compressing and dissecting the lungs can give rise to infectious aerosols (45). One of the common organism to be transmitted through this route is *M.tuberculosis*. Others include rabies, plague, meningococcemia, Q fever, and anthrax. The cadaver is a potential source of infection with *Streptococcuspyogenes*. Such pathogens give rise to potentially curable disease but nonetheless may result in considerable morbidity (46).

COVID-19

In December 2019, the Chinese authorities found a new virus causing pneumonia whose cause was unknown. Later it was identified through genetic sequencing as Coronovirus (CoV). It is a very large family of viruses causing illness ranging from mild common cold to severe diseases as MERS-CoV and SARS-CoV. It can cause severe injuries in immunodeficient individuals or those with suffering from other co-morbid conditions.

It was later named as novel coronavirus COVID-19. It can spread from an infected person to another through close contact. It can survive over surfaces also that helps in it transmission worldwide and causing a pandemic. During postmortem examination it can spread by aerosols and all the procedure which produce aerosols should be done carefully (47).

B. Dangerous foreign objects

The body may contain objects whose presence may or may not be known at the start of the examination, and which may be hazardous to the pathologist and the co- workers. The following are the three specific areas which are to be focused.

Hidden Sharp Objects

The body may contain "occult" sharps. Such objects may be a legacy of previous medical intervention, as in the case of vena-caval (Greenfield) filters, the presence of which may not be documented in medical notes. The fine anchoring points of the filter are sharp and may cause puncture wounds (48). Sharp objects within the body may alternatively be a consequence of the patient's lifestyle. The staff performing autopsies on those with a history of intravenous drug use must be aware of this potential (albeit rare) hazard. Radiographic screening has been suggested for cases where retained needle fragments are suspected (49) (50).

Implanted Cardioverter Defibrillators

These devices are used in the treatment of malignant tachyarrhythmias such as ventricular tachycardia and ventricular fibrillation (50). These devices are similar to cardiac pacemakers. It is clear that such devices can discharge after the patient's death and at necropsies. It is recommended that care is to be taken to deactivate these devices (ideally, done by the manufacturer or, if unavailable, with a doughnut shaped magnet placed over the pulse generator) before handling them (51) (52). As with cardiac pacemakers, the batteries with such devices can detonate when heated and therefore implanted defibrillators must be removed from the bodies that are to be cremated and must not be disposed by incineration.

Exploding Bullets

Those working in mortuaries where deaths as a result of shootings are investigated face the potential hazard that the deceased was shot with explosive ammunition. Such bullets are designed to fragment upon contact with the victim, thus slowing the bullet and imparting more of its kinetic energy to the body. In addition to causing severe injury to the victim, such bullets pose a hazard to the surgeon and the pathologist if they fail to explode (53). In cases where explosive ammunition is suspected, goggles should be worn and long handled instruments used to minimize the risk of injury to eyes and fingers. Once removed, the bullet must be handled with rubber coated forceps, kept in padded container to shield it from excess vibration and heat, and must be kept away from sources of microwave radiation (53) (54).

The Contaminated Body

The staff involved in the postmortem should be aware that, on rare occasions, they may be faced with a request to undertake a necropsy on a body that had been contaminated either chemically or radioactive sources.

Chemical Contaminants

The hazard posed by chemical contaminants at necropsy focuses primarily on the necropsy of patients who have died of cyanide poisoning. The cyanide liberated from such bodies may poison postmortem personnel (55). The occupational exposure to cyanide can be minimized by performing the necropsy in a well ventilated environment, using down draught ventilation.

Occupationally acquired organophosphate (Malathion and Parathion) toxicity has been reported among health care workers who failed to take appropriate precautions (56).

Formaldehyde is the most common toxic agent to affect the autopsy personnel. It is highly volatile and causes irritation of the eyes, mucous membranes and skin (57). Long term exposure has also been associated with an increased risk of all cancers, particularly the cancer of lung (58).

Radioactive Contaminants

Bodies may be contaminated by radioactive materials deliberately, as a consequence of medical treatment (59) or as a consequence of the explosion of atomic devices or working in the nuclear industry (60). There are reports of cases of pathologists receiving excessive radiation after autopsying such bodies (61). Rubber gloves reduce β radiation very much, but not the δ radiation from the isotopes (NCRP) (62).

Precautions/ Minimising The Risks

The safety standard universal precautions are meant to apply to blood, semen and vaginal secretions as well as to cerebrospinal, synovial, pleural, peritoneal, pericardial and amniotic fluids but they do not apply to feaces, nasal secretions, sputum, sweat, tears, urine and vomitus unless they contain visible blood (63).

Entry to postmortem examination room should be restricted except for experts and workers who are trained in handling the infected material. The experienced persons should preferably conduct the postmortem examination. Immunosuppressed or immunodeficient individuals and individuals who have uncovered wounds, weeping skin lesions or dermatitis should not perform the autopsy.

The autopsy room should be of size sufficient to accommodate the workload without overcrowding and the design of the room and equipment should be such as to permit free movement and easy and thorough cleaning and disinfection of autopsy tables, dissecting surfaces, floor, walls etc.

Proper personnel protection involves personal protective equipment, engineering, work practice etc. The protective gear used and the procedures followed so as to protect the health care workers were formerly termed Body Substance Isolation Procedures or Universal Precautions. Now, these are combined into Standard Precautions, which are developed to reduce the transmission of all pathogens from moist body substances.

The guidelines by the Royal College of Pathologist, London on post mortem practices recommend that mortuaries must adopt health and safety protocols for the performance of post mortem examination on cadavers known or suspected to be infected with a hazard group 3 pathogen. The basic principles include:

Immunization: All staff involved in the necropsy or coming in contact with materials derived from it should be vaccinated against tetanus, poliomyelitis (6), tuberculosis (15) & hepatitis B (25).

Pre-Necropsy Testing: This should be considered in cases where there is a reason to suspect that the body may be infected with a previously undetected category 3 pathogen.

Clothing: The currently recommended clothing for performing (all) necropsies include; a cap/hood that completely covers the hair, eye protection (ideally a visor that provide full face protection), a face mask (a tight fitting N-95 necessary for cases of TB), surgical shirt and trousers, water proof boots (ideally with steel toecaps to prevent penetration by sharps dropped), a full length gown, a water proof long apron and a pair of gloves. Additional protection can be obtained by wearing a gauntlet on the non- dominating hand. Such gauntlets , made of metal mash (32) (64) (65) or Kevlar (66) provide protection against cuts but will not prevent needle stick injuries.

Aerosol Formation Reduction

This is essential for reducing the risk of acquiring airborne infections such as tuberculosis and enteric pathogens (67) (68) and for necropsies on patients suspected of having HIV or TSE. Down draught ventilation tables reduces the particle transmission of microorganism (68) (69)and have the added advantage of reducing odors. The hazards for the formation of aerosols relate principally to the use of power saws and opening of intestines (which should be performed under water). Care should be take when removing, handling and/or washing organs to avoid splashing and aerosol formation. High pressure water sprays should not be used.

Equipments: The equipment's used to perform the necropsy should be kept to a minimum, and be kept in clear view at all times. Scalpels and scissors with pointed ends should not be used (27) (29). Instruments especially sharps should never be passed from hand to hand. For necropsies on patients where a TSE is suspected, disposable

instruments should be used. Non- disposable instruments require prolonged disinfection (32).

Circulators: Necropsies on patients suspected or known to be infected with a category 3 risk pathogen should involve minimum staff during the procedure. In Practice, the pathologist and technical staff are “dirty” whereas the circulator avoids direct contact with potentially infected or contaminated tissues, fluids, and surfaces and remain”clean” (69). The roles of the circulator include labeling specimen containers, completion of paper work associated with specimens, recording organ weights, and other notes described by the prosector, adjustment of overhead lighting, monitoring the practice of the prosector and technical staff to ensure that health and safety guidelines are followed, liaison between the prosector and clinicians, so that the contaminated prosector does not have to handle clean surfaces such as telephone receivers (70).

Safe Sharp Practice: It is essential that a safe sharp practice is meticulously followed at all times. Hazards are posed both by equipment used to perform the necropsy like scalpels, scissors, needles, and saws and by the body itself with bone fragments and unsuspected objects within the body. For reconstruction of the infected body it has been documented by the authorities that sutures should not be used instead, the body is to be closed with staples , tissue adhesives or even left unreconstructed and sealed in a leak proof body bag (5) (29).

After the autopsy is complete and the gloves are removed, it is essential to thoroughly wash the hands as unapparent defects may appear in the gloves during use and may lead to contamination.

All the exposed personnel should have access to appropriate health – care facilities at the earliest. Autopsy personnel should have baseline blood tests and tuberculin skin tests at the time of employment and a periodic retesting should be undertaken at regular intervals. Immunization awareness and resources should be provided.

The autopsy rooms should be separated from the administrative part of the mortuary. Separation prevents the employees and other persons not participating in the postmortem examination from being exposed to various pathogens.

Standard Precautions for mortuary staff and funeral directors and staff handling human remains

The use of Standard Precautions in the handling of all human remains is of utmost importance in preventing the spread of infection, since it is not possible to rule out an underlying infection in every case.

The most effective means of diminishing the risk of infection are as follows:

1. **Hygienic practices**

No eating, smoking or drinking should be permitted or any other action that will bring the hands into contact with the face within the work areas that involve handling of remains, embalming, etc.

Thorough hand hygiene should be done with liquid soap and running water or decontamination by using an alcohol-based hand gel.

2. **Protective clothing**

Protective clothing must be provided for use in the workroom and be used at all times. This includes: waterproof aprons, gowns, gloves, overshoes or Wellington boots, appropriate eye protection. Disposable gloves should be used in the handling of all bodies.

Facilities must be provided for storage, cleaning and safe disposal of protective clothing after use. Work clothes must not be worn outside the premises. Shower facilities should be available.

3. **Standard Operating Procedures**

Employers should have written safety policies and Standard Operating Procedures (SOPs) which should be read by all staff who enter the workrooms. Employers should provide training in Standard Precautions. Employees are expected to follow infection prevention and control guidelines and policies issued by their employers and to maintain high standards of personal hygiene.

4. **First Aid Box**

A First Aid Box and an eye wash station must be provided.

5. Sharps

Sharp instruments and needles must be handled in accordance with the instructions to ensure the maximum protection from injury for those handling them. An approved sharps container conforming to UN 3291 or BS 7320 standards should be placed next to the body before any sharps are used. Extreme care must be exercised during the use and disposal of sharps. The use of disposable blades and needles is recommended and should be disposed off by the person who

uses them. Needles should not be resheathed prior to disposal into approved sharps containers. These should never be over filled, and should be closed when at two-thirds capacity.

6. Accidents
All accidents in the workroom must be reported at once to the supervisor and recorded in the Risk Incident form. This is particularly important with sharps injuries.

7. **Immunizations**
Staff members should be fully immunized against poliomyelitis, tuberculosis, tetanus and hepatitis B and should keep a record of details of this information.

8. **Spillages**
Spillages of blood or other body fluids should be cleaned up promptly by using gloves and plastic apron. Small blood spills except urine spills should be soaked up by using chlorine releasing granules and disposable paper towels. The chlorine fumes can be released coming in contact with urine that can cause respiratory problems. The granules or towels should be scraped/soaked up and placed in a healthcare risk yellow waste bag. The area should then be cleaned with a detergent solution and dried. For general cleaning of the environment, a good quality detergent and hot water is preferred.

9. Hazards involved in the handling of personal effects
Great care must be taken by any staff involved in checking bodies for personal effects. Tongs should be used to remove items from pockets, as in some situations pockets may contain items such as syringes. Any such items found on the person should be made safe by placing in an appropriate sealed container and sent with the body for postmortem examination and analysis.

Cleaning of instruments
The following precautions need to be taken with the cleaning of instruments:
• Instruments used for post-mortem or embalming procedures must only be used for these purposes. They must not be re-used for procedures on living patients.
•Sharps used in post-mortem and embalming procedures should be single use and disposed of appropriately after use.
•The use of an automated washer disinfector to clean instruments is strongly recommended.

• In case of non-availability of automated washer disinfector, the following steps should be followed when washing instruments by hand:

Cleaning of instruments must be done in a dedicated sink (i.e. not a hand washing sink) using appropriate PPE (including gloves, waterproof apron and eye protection.

Instruments should be cleaned of debris in warm (not hot) water and detergent and soaked in a solution of an appropriate disinfectant (0.1% hypochlorite solution). They must be kept fully immersed while being cleaned, to avoid generating splashes or aerosols. Once cleaned, the instruments should be rinsed by immersing them in clean water.
• Instruments must not be sharpened by hand. It is important to emphasize that there is a risk of injury to the user when washing instruments by hand and, again, the use of an automated washer disinfector is strongly recommended.

WHO recommend soaking in a 0.1% hypochlorite solution (i.e. 1 in 10 dilution of household bleach) in a plastic container (hypochlorite reacts with metal containers) for 10 minutes. This should be sufficient for routine mortuary work, embalming and most post-mortems. However, where there is a risk of CJD or other TSE, decontamination procedures should follow the recommendations of the CJD guidelines, “Guidelines on Minimizing the Risk of Transmission of Transmissible Spongiform Encephalopathies in Healthcare Settings (2004).

Recommended biosafety and infection control measures for COVID19 autopsy:
Autopsies on decedents known or suspected to be COVID-19 cases should be conducted in Air borne Infections Isolation Rooms (AIIRs) that are at negative pressure and have a minimum of at least 6 to 12 air changes per hour (ACH) for existing structures. It must have an air exhaust directly outside through a high efficiency particulate aerosol (HEPA) filter.

- The Aerosol Generating Procedures (AGPs) such as oscillating bone saw usage should be avoided for known or suspected COVID-19 cases. An alternative cutting tool such as hand shears can be used.
- The number of personnel working in the autopsy suite at any time should be minimum to conduct the autopsy safely.

- A bio-safety cabinet must be used for the handling and examination of smaller specimens and other containment equipment.
- The handling of needles and sharps must be used cautiously.
- Disposal of contaminated sharps in puncture-proof, labeled, closable sharps containers must be ensured.
- A logbook including names, dates, and activities of all workers participating in the postmortem and cleaning of the autopsy suite should be kept to assist in future follow up, if necessary. (CDC) (71).

The recommended PPE to be used during autopsy procedures of COVID 19 are as follows: (CDC) (72).

- Double surgical gloves interposed with a layer of cut-proof synthetic mesh gloves
- Fluid-resistant or impermeable isolation gowns and waterproof aprons
- Goggles or face shield
- NIOSH-approved disposable N-95 or higher respirator
    - Powered, air-purifying respirators (PAPRs) with HEPA filters that provide worker an increased comfort during extended procedures.
    - Surgical scrubs, shoe covers, and surgical cap should be used per routine protocols. (OSHA) (73).

Conclusion

The identification of the agents responsible for risks and hazards is of utmost importance. There is a need to identify the practices that results in infections and exposes the personnel to various hazards in postmortem procedures. Emphasis is required to avoid the risks and prevent the spread of infection hazards. The Adherence to proper SOPs and effective maintenance of aseptic conditions by sterilization techniques can reduce the risk of infections and hazard to all the personnel's involved in mortuaries.

Conflict of Interest

None

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