

Original Article

An Appraisal of Mortuary Facilities in District Multan

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Objective: To evaluate the mortuary facilities at various health centers in District Multan.

Material and Methods: The study was conducted in district Multan at various rural health centers, Tehsil Head Quarter Hospital and Nishtar Medical College Multan. The total eight mortuaries and postmortem rooms were included in this study. The questionnaire was prepared to evaluate the present facilities, deficiencies, availability of skilled trained staff, and risk to the mortuary staff. The data was prepared to evaluate the present state of mortuaries & compare with a standard mortuary.

Results: It was observed that most of the centers had poor facilities. All the centers except Nishtar Medical College, Multan had no trained skilled staff. All the mortuaries had no protective measures against hazards & accidents. The facility of portable X-Ray & staff vaccination was not present.

Conclusion: It was concluded that lack of skilled technical staff, proper building & other facilities is leading to postmortem artifacts resulting in negative autopsies and injustice. The staff is at high risk.

Keywords: Postmortem, mortuary, morgue, forensic

Introduction

The word autopsy means to see oneself & is used synonymously with the term post mortem & necropsy. Post mortem is an abbreviation for postmortem examination & none of the terms has a specified meaning that allows the extent or the nature of the investigation to be inferred from their use. A post mortem examination usually implies a full autopsy, involving external examination of the corpse, dissection of the corpse, dissection & examination of the contents of the cranial, thoracic & abdominal cavities but if a very restricted examination is carried out due to relatives' wishes or because of some infection hazards it remains autopsy/ post mortem examination/ necropsy.⁽¹⁾

“MORTUARY” a word synonymous to the “MORGUE”, is a place where dead bodies are kept until burial or cremation/ a place where dead bodies may be temporarily kept for identification or until claimed for burial.⁽²⁾

It can be too strongly stressed upon that in order to produce good results, the examination must be carried out under optimum conditions. It applies particularly to the post mortem room facilities, which are not always entirely satisfactory.⁽³⁾

The examination of the body in the mortuary must be careful & thorough. Deficiencies may well be exposed in the court later to the discomfort of the pathologist & bring discredit to whole of the

evidence. It is important that the pathologist must have trained assistance.⁽³⁾

Examination of a dead body by an “experienced forensic pathologist” seldom fails to reveal important information, especially when backed by a well equipped & staffed laboratory. An autopsy should never be performed in poor conditions. A properly lit & equipped post mortem room is essential.⁽⁴⁾

It is essential to check the presence of preventive measures such as disposable gowns or aprons, rubber shoes, disinfectant soap, masks, sterilizing solutions. It is necessary to locate the forensic pathology instruments if a mortuary attendant has not been assigned. These include power saw, hand saw, scalpel with extra blades, a large pair of hemostats to hold the reflected tissues during dissection and scissors to remove excess tissues. Refrigeration should be available for specimens.

The most common infections that are suspected and require caution are acquired immunodeficiency syndrome (AIDS), Hepatitis and Tuberculosis. One must wear a mask and the mortuary ventilation system must be operational. Tetanus is also a hazard, particularly where the bodies are contaminated by earth, which may well contain fecal matter. In tropical countries other diseases may be an additional hazard.

⁽⁵⁾In large cities one can expect that there may be sufficient expert forensic personnel. The physical & psychological stresses involved in this work demand

specialized regulations to avoid over burdening.

Apart from the deleterious effects upon the doctors, the standard of work declines dramatically with fatigue; it is in the interest of the pathologist that sufficient staff should be recruited.⁶ Distinction of ante mortem injuries from the post mortem artifacts is of obvious importance. Problem in differential diagnosis may be a result of faulty technique, distorting post mortem changes and destructive environmental factors such as high temperature and post mortem mechanical trauma.⁷ Rough handling of the dead body by the mortuary assistants may also result in fractures of ribs and long bones. Improper autopsy procedures may also result in artifactual fractures, hemorrhage and emboli.⁸ Routinely, a dead body is sent to the morgue but in exceptional cases a medical officer may be taken to the place where a dead body is lying. No unauthorized person should be present at autopsy.⁹ At post mortem examination, staff who does not possess the qualification specified in Whitley Council Agreement must work under direct supervision of a pathologist or a qualified member of post mortem staff. Every encouragement and facility should be provided to the staff to acquire the qualifications laid down by the council. The staff should be instructed about the risk to their health and that of the others if strict attention is not given to the cleanliness and hygiene at all times. The staff must undergo an initial skin test for tuberculosis, an X-ray chest and tetanus immunization if not already vaccinated.¹⁰ Should a medical officer consider that he has reasonable grounds for complaint on any occasion that police has called upon him to perform post mortem examination outside the mortuary, he should bring the matter to the notice of his administrative officer, for necessary action.¹¹ For the "high risk" autopsies (e.g. Lassa fever, Slow virus disease, anthrax), use of high efficiency particulate air (HEPA) mask should be considered. Although the transmission of HIV infection to autopsy personnel is considered rare,¹² most would consider such an autopsy "high risk." Consequently, it has been recommended that sewing the body before releasing it to the funeral home be abandoned as sewing is the cause of most penetrating injuries in the mortuary.¹³

In routine practice, intravenous drug abusers pose the greatest risk of infectious disease transmission at autopsy because their bodies may harbor a variety of viral, bacterial, and mycobacterial agents that may not be obvious on history or external examination. Also there is a recently reported hazard of broken needles lurking in the soft tissues of the neck and supra clavicular region of HIV-infected drug

addicts.⁽¹⁴⁾

Material & Methods

The study population consisted of eight rural health centers, one Tehsil Head Quarter hospital, one District Head Quarter hospital & Nishtar Medical College & hospital, Multan. The study was carried out by interviewing the doctors conducting post mortem examinations at the hospitals using a questionnaire and physical verification of mortuaries, including their cold storage system and the prosector; mortuary assistants and other mortuary staff was also assessed.

Results

The Proforma was designed to observe the mortuary facilities in district Multan. District Multan is situated .

Table-1: The number of post mortems in District Multan.

Centers	Year 2000	Year 2001
N.M.C Multan	210	198
T.H.Q Shujabad	28	34
D.H.Q Multan	3 MB	5 MB
R.H.C Mardan Pur	8	10
R.H.C Qadir Pur	7	14
R.H.C Makhdum Rashid	12	15
R.H.C Ayaz Abad Maral	9	12
R.H.C Jabal Pur	15	12
Total	292	300

MB = Medical Boards.

Table-2: Existence of regular mortuaries at various hospitals.

Hospitals	Total Centers	Centers with PME	Centers with Mortuaries	PME Per Year
R.H.Cs	8	5	1	63
T.H.Q	1	1	1	34
D.H.Q	1	1	No	05
N.M.C	1	1	1	198

PME = Post Mortem Examination

Table-3: Mortuary staff facilities.

Designation	R.H.Cs	T.H.Q	D.H.Q	N.M.C
Mortician	No	No	No	Yes
Mortuary Assist.	No	No	No	Yes
Mortuary S.W	Yes	Yes	Yes	No
Record Keeper	No	No	No	No

Table-4: Provision of mortuary facilities in various hospitals.

Facility	R.H.Cs	T.H.Q	D.H.Q	N.M.C
Post mortem table	Yes	No	No	Yes
Light	No	No	No	Yes
Ventilation system	No	No	No	No
Water & sanitation	No	Poor	No	OK
Refrigeration system	No	No	No	Yes
Putrefied bodies store	No	No	No	Yes

Table-5: Post Mortem Equipment Facilities.

Equipment	R.H.Cs	T.H.Q	D.H.Q	N.M.C
Electric Saw	No	No	No	Yes
Hand Saw	Yes	Yes	No	Yes
Skull Key	No	No	No	No
Ordinary Chisel	Yes	Yes	Yes	No
Portable X-ray plant	No	No	No	Yes
Formalin Drum	No	No	No	No

Table-6: Safety Measures in Mortuaries.

Safety Measures	R.H.Cs	T.H.Q	D.H.Q	N.M.C
First aid box	Yes	No	No	Yes
Direction board	No	No	No	No
Vaccination of staff	No	No	No	Yes
Gloves and masks	No	No	No	Yes
Injury register	No	No	No	Yes

in southern Punjab on the eastern bank of river Chenab. In this district, the total number of R.H.Cs is eight, one T.H.Q hospital, one D.H.Q hospital & one teaching hospital. The post mortem work is being conducted at all hospitals

Discussion

In the teaching hospital, the putrefied dead bodies and remains were stored in a room on the top of the building. In the rest of the centers, these were kept in open air at a distance from the main building as there was no arrangement for such bodies. Ice blocks were placed over under and sides of the dead bodies to prevent further decomposition. **(Table no.4)**

Most of the hospitals had mortuary set up. There was great difficulty to conduct the autopsy; either the dead body was transported to the teaching hospital or the examining medical officer moved to the teaching hospital mortuary, which caused problems

to the relatives, police, doctors & also to the government, as all the medical officers used ambulances for traveling. It was noted that an isolated room was situated in one corner of the R.H.C Jalalpur Pirwala and T.H.Q hospital Shujabad for storage as well as to conduct the autopsy. There was no light and no post mortem table except at R.H.C Jalalpur Pirwala. There was no refrigerator for storage of specimens anywhere except Nishtar Medical College. Post mortem instruments were insufficient, old and rusted. **(Table no.4)**

Sanitary workers were working as prosectors. Doctors were just observers. There was no post for a mortician or mortuary assistant in any of the hospitals except Nishtar Medical College mortuary. No hospital including teaching hospital had a receptionist or a record keeper for the help of poor people. Most of the mortuary in charges complained about the lack of trained qualified technical assistance, which is necessary for good & effective reporting. **(Table no.3)**

Safety measures were observed at the teaching hospital & the two rural health centers where first aid boxes were available. It was noted that even gloves were not used during dissection. Ordinary blade was used for cutting of skin as well as cartilage. No injury register or record was being maintained except at the teaching hospital. The staff did not get vaccinated except at the teaching hospital. Equipment like electric saw, hand saw, skull key, portable X-ray plant etc. was not available except at the teaching hospital mortuary. To open the skull, ordinary chisel was being used, which causes post mortem fractures creating problems during re examination and causes the disfigurement of the body. At teaching hospital, although portable X-ray plant was available, it was not being utilized to locate foreign bodies or bullets. The instruments were old fashioned and rusted and not recommended for mortuary use as such equipment may give false results in the form of artifacts **(Table no.5).**

Mortuary staff lacked knowledge regarding how to collect, what specimen was to be taken for analysis and where to send it. Even doctors unaware of this very basic information. The untrained prosectors made unnecessary cutting of the dead bodies, which could be prevented by provision of trained and qualified staff. **(Table no.3)**

There was no formalin drum and sanitary workers used to prepare 10% formalin. Even the doctors were unaware as to how 10% formalin was to be prepared. Ineffective formalin leads to autolysis of preserved tissues and occasionally results in a negative autopsy.

The lack of a light source led to delay in post mortem as the dead body brought for examination at or after sunset would be examined the next morning, which results in post mortem artifacts and unnecessary delay in burial. All the mortuaries had a single post mortem examination room with a single table; so when two or more than two dead bodies were brought for examination, the other was kept outside in veranda or lawn leading to unnecessary delay especially in mass disasters.

Due to lack of refrigerator, the collected specimens in cases of poisoning undergo disintegration especially the vegetable poisons. The poison may get converted into some other poison or compound, so the poison detected from the scene may be different from the poison detected from the dead body and thus change the whole story (**Table no. 4**).

Non-use of gloves and masks during the examination of dead bodies and production of offensive gases affects the health of the staff in the form of persistent headache, vertigo, vomiting and lack of concentration (**Table no. 4**).

No mortuary had storage facilities except Nishtar Medical College Multan, so the chances of putrefaction are more; this leads to disfigurement of the dead body, leading in turn to wrong observations and agony for the relatives.

It has been observed that while planning a health facility in an area no plan for a mortuary is laid down which if realized is as important as provision of other clinical services.

Conclusion:

The lack of mortuary facilities including lack of trained staff is leading to poor observations resulting in a “**negative autopsy**”. Therefore, the

post mortem examination is contributing less in the provision of justice.

Due to lack of safety measures and poor environment in the mortuaries, the health and safety of the staff is at great risk.

Recommendations:

- 1) The post mortem work should be conducted at health facilities within jurisdiction of concerned police station and referral to other hospitals should be strongly discouraged.
- 2) The availability of trained technical staff & proper equipment for autopsy at each health facility, for better reporting should be ensured. Training for collection, preservation of specimens/ trace evidence should be done on priority.
- 3) The first aid box, autopsy table, portable X-ray plant and other necessary equipment should be provided at all mortuaries.
- 4) The mortuary staff must be vaccinated.
- 5) Good working environment including suitable lighting, water & good sanitary conditions will minimize the chances of post mortem artifacts.
- 6) The E.D.O/D.O.H & D.M.L.O should be responsible for supervision of mortuaries & training of medical officers & mortuary staff.

The health department should take it as “TOP PRIORITY” matter during its considerations to improve health facility of a particular area.

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