

REVIEW ARTICLE

**Postmortems of Fatal Long Standing Hospital Admitted Cases,
an Overburden for the Medico Legal Experts: A View****B.H. Tirpude^{*}, P.N. Murkey and Pawan A. Wankhade***Department of Forensic Medicine, and Toxicology, MGIMS, Sewagram,
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Abstract: *Background:* India is emerging as the most populated country of the world. Amount of Medico legal postmortems done in India are comparatively huge. On the contrary, we have great deficiency of Forensic Experts and resources for conducting autopsy procedures. Owing to this disparity quality of Postmortem examination and other important medico legal work is not up to the mark. This is very much affecting the evidence collection solely on which decisions of our Judiciary system are based and many times it leads to miscarriage of Justice. *Objectives:* In Foreign countries Law, order and Forensic investigations are unfailingly of high standards and autopsies are performed only when highly recommended and demanded by the law enforcing agencies. Moreover restricted autopsies, minimal invasive autopsies etc are also performed there. *Conclusion:* Time has come to think and act over this issue for sake of Justice, Humanity and ultimately to save time, money and resources of Government agencies and for safety of working Forensic Experts those are at always stake.

Keywords: Medico legal postmortems, disparity, miscarriage of justice, restricted autopsies.

Introduction:**A) What are the unnecessary post mortems?**

When no additional information is obtained on postmortem examination or the same required information can be collected by Forensic Expert at bed site in ward and the clinicians are also planning their management to save the patient based on a particular diagnosis of the disease which eventually is the cause of death. Most of the times Forensic experts are also getting the same cause of death on autopsy and no new findings can be gathered. In such cases postmortems performed are unnecessary.

B) Objectives of the Postmortem Examination

To determine the [1]

- Cause of Death i.e. Natural / Unnatural, Manner of Death i.e. accidental, Suicidal, homicidal.
- Time since death.
- How injuries occurred?
- Identity of the deceased.
- Object causing the injuries.
- For epidemiological, academic, statistical purpose.

- To retain viscera, blood and other various biological samples for further investigation like Chemical Analysis, Histopathology, DNA, Blood Grouping etc.
- In case of newborn infants the question of live birth and viability assume importance and should be determined [2]

C) *Postmortems can be avoided in following fatal long admitted Medico legal cases in which all medico legal documentation and procedures are completed?*

Cases burn injuries, snake bite or unknown bite, poisoning, road accidents, potentially infective cases like HIV, Rabies, H1N1, Viral hemorrhagic fevers.

D) *What are benefits of curtailing these postmortems?*

Excessive burden of post mortem will be cut off. Risk of acquiring fatal Life threatening infections to Forensic experts and coworkers will be minimized. The postmortem examination room has always been a potential source for infection, long before the concept of bacteria had been developed. The Forensic Experts, Forensic Pathologists, Forensic Anthropologists and other persons engaged directly or indirectly in postmortem work are at greater risk of exposure to blood-borne viruses and other infections including Human Immunodeficiency Virus, Hepatitis B, Hepatitis C, Hepatitis D and G viruses, Non-A, Non-B hepatitis (NANB), Tuberculosis, Creutzfeldt Jakob Disease, Herpes, Hantavirus Pulmonary Syndrome, Smallpox, Human T-cell lymph tropic virus type I and infections from other pathogenic organisms [3]. In a typical hospital setting, a deceased person is lifted at least 7 times: from bed to stretcher to morgue locker to gurney to autopsy table to gurney to locker to funeral director stretcher. For those involved in the lifting, the possibility of musculoskeletal injury, particularly back strain, is obvious, especially with large decedents [4]. The time saved by curtailing that postmortems can be given to Medico legal examination of the victims at the bedside in wards i.e. by omitting the unnecessary mortuary work we can more focus more on medico legal work in wards which is more appreciable and required in present scenario of our Forensic fraternity. The clinicians are already overburdened in discharging their duties i.e. clinical, academic, administrative and honorary. Those Doctors are less aware and bothered about the medico legal documentation or procedures. This all is creating tremendous lacunae in medico legal documentation and ultimately causing the miscarriage of justice. This all can be rectified if such policies are framed, necessary infrastructure, staff is provided and all the medico legal work is assigned to the experts of Medical Jurisprudence who are the specialist and dedicated personnel for that.

In addition it will be saving the time, money and resources of Health and Home department of Government. Unnecessary workload of the Police will also be reduced. The mortuary is a place of mystery, sadness, grief or repulsion and all hope, while alive, that they will never need to visit such a place For families who have lost a loved one to a sudden death, this becomes a reality [5]. Relatives are not willing for an autopsy because they perceive it as mutilation of the body.

One study indicated that 83% of family members that refuse autopsy felt that the patient “had suffered enough”. Other reasons include unawareness of the autopsy's value and religious objections [6]. Different traditions, beliefs, and practices surrounding death are common to all cultures and religions and have resulted in conflict regarding anatomic dissections and postmortem examinations [7]. Religious views about autopsies generally parallel attitudes about organ or tissue donation. They vary not only among religions, but also sometimes within religious sects and among co-religionists in different countries. The Bahá'í faith, most nonfundamentalist Protestants, Catholics, Buddhists, and Sikhs permit autopsies. Jews permit them only to save another life, such as to exonerate an accused murderer. Muslims, Shintos, the Greek Orthodox Church, and Zoroastrians forbid autopsies except those required by law. Rastafarians and Hindus find autopsies extremely distasteful [8]. The deceased relatives will be having the sigh of relief, those who are in grief and waiting for the dead body of their dear ones for the funereal and which will definitely save the unnecessary time being wasted.

Discussion

A) *The concept may be discussed as under with examples.*

1. Let's discuss a case of burn admitted in ward for more than 24 hrs. The important evidence like smell of kerosene, burnt hairs or cloths for evidence of inflammable substance like kerosene, petrol etc. should be collected at once and then if victim dies cause of death i.e. septicemia or shock can be given by the treating Doctor at the bedside. If such victim attended by the Experts of Medical Jurisprudence the important Legal evidence like Dying declaration, Injury certificate and preservation of burnt hairs or cloths for Chemical analysis will be done without any lacunae. Many times these evidences like smell of kerosene etc. on the body or clothes are not appreciated at autopsy because of long duration of admission and treatment in the hospital. It is very much demanded for the justice of the innocent victims.
2. Let's see the second case of poisoning which was admitted for long duration in ward for treatment, died, postmortem done in mortuary. As gastric lavage is done many times while treatment no smell of poison obtained from stomach and gastrointestinal tract, organs shows usual congestion and Chemical Analysis report comes negative for poison as no gastric lavage was preserved in the hospital and handed over to the police for sending it to the Forensic Science Laboratory for analysis .If this case have been attended by the Forensic Expert in ward this would not be the results. As the important medico legal evidences like gastric lavage preservation, dying declaration and other legal documentation would have been done by the Forensic expert to avoid the unnecessary postmortem and unnecessary litigations.

B) *Avoiding the unnecessary postmortem - how it can be achieved?*

Postmortems are mandatory in all brought dead cases and cases dying within 24 hrs of hospital admission, where no medical history is available. But if victim survives

for more than 24 hr then we may think to curtail the postmortem if it is duly attended by Forensic expert and all important medico legal documentation and necessary sample preservation is accomplished. Because many times in long admitted injury cases at postmortem we are getting almost healed or altered picture of wounds. So much time is elapsed and it is not possible to comment on details of injury on autopsy table. In fatal infective cases of HIV, Rabies, viral hemorrhagic fevers if no foul play is suspected on history taken in wards and all medico legal formalities are completed and if such patient dies, postmortem is not necessary where no additional information can be obtained for deciding the cause of death. Instead of sending such dead bodies for the postmortem the treating Doctor should certify the cause of death and death certificate may be issued after taking no objection from the relatives that they do not have any suspicion or complaint regarding the death of the deceased admitted for the treatment so that they may complete the further formalities and handover the dead body to the relative and inform the police accordingly.

To achieve this endeavor Forensic Medicine and Medical Jurisprudence Experts must be employed dedicated only for attending the Medico legal cases at hospital side, in addition to the existing staff recruited for academic, honorary and Mortuary work.

C) Comparison with the foreign countries.

Basically the concept of subject of Forensic medicine in India is based upon the pillars of British Medicolegal system. But as the time elapsed their law and legal enforcement systems were developed very fast than us. They curtail down their unnecessary medico legal work and systematically improvised their legal and judiciary system in relation to the medicolegal work. In United States of America also no postmortems are done in Category III and Category IV infections. If at all done they are performed in specially designed autopsy suites, with all autopsy room workers fully trained in safe working autopsy practices. In restricted autopsy only required part is dissected. In minimal invasive autopsy needle autopsy is done to collect the required samples from the cadavers. Many times cause of death is obtained by imaging techniques like CT or MRI or interventional radiology [9] etc. Virtual autopsies (yes, "virtopsies") are the newest in cause-of-death forensics. Robots surround a body, creating 3D imagery inside and out. Basically the virtopsy bot (yes, "Virtibot") manipulates and dots the body with markings in order to measure and take a bunch of stereo images with its array of cameras. While the external structure and markings of a body are being documented, a CT scan takes care of the innards. The final 3D image is created which pathologists then use and abuse without worrying about deforming a deceased body. If need be, the Virtibot can use a needle to extract fluid or perform minimally intrusive biopsies. Aside from being far neater than a traditional autopsy, virtual autopsies allow for archiving of the 3D bodies for later medical analysis or case comparison in the event of criminal trials [10].

These all advance techniques and practices are definitely decreasing the workload and improving the quality of medico legal work proving it more creditable.

D) *Why it is important to think and act positively over the issue of this unnecessary postmortems in our country.*

India is emerging as world's most populated country with huge number of Medicolegal postmortems yearly. On other hand there is scarcity of Forensic Experts. It is posing a very great burden to the Forensic expert who on the other hand is bound to discharge the academic, official, honorary and judicial duties also. In most of the Government Medical Colleges and Hospitals where there is tremendous workload of postmortems. More than 95 % of the cases are deceased of burns, poisoning, road accidents, operated cases, natural deaths admitted for longer duration for medical management. If unnecessary postmortems are avoided then it will definitely reduce maximum burden of post mortems. Disaster of HIV, hepatitis, MDR TB etc. is posing a great risk to the life of Forensic Expert and coworkers in the absence of essential resources and strict safety working practices in autopsy rooms. Tuberculosis (TB) today remains one of the world's most lethal infectious diseases. Despite the availability of effective treatment for most cases, tuberculosis is still a cause of death in our environment. Some cases of active tuberculosis are not identified until after the patient had died and an autopsy has been performed [11]. In regions with a high prevalence of tuberculosis patients with undiagnosed or untreated disease are concentrated in hospitals, so healthcare workers are regularly exposed to *Mycobacterium Tuberculosis* where rates of drug resistant disease are increasing. It is therefore increasingly important for them to be able to assess and reduce the risk of acquiring tuberculosis [12]. New worrisome infective agents called 'PRIONS' are associated with degenerative diseases of the central nervous system (CNS) in man and animals (e.g. Mad Cow Disease). Prions are proteinaecious infective agents characterized by extreme resistance to Conventional inactivation procedures and transmissible through food, contaminated instruments.[13] Working in a mortuary is an extremely stressful experience which is made worse in India due to the large number of people dying sudden violent deaths due to trauma and the pitiable condition of mortuaries throughout the country [5]. Forensic pathologists/Autopsy surgeons and the forensic medicine personnel assisting to conduct an autopsy who come in direct contact with the body fluids, soft tissues of the dead and skeletal remains in different stages of decomposition, are at a continuous risk of acquiring various kinds of infections including blood-borne viral and other bacterial infections. However, limited data are available regarding these occupational risks to the persons who are usually exposed to dead bodies in the autopsy rooms. With the existing and growing HIV epidemic and high seroprevalence of hepatitis virus, safety becomes an issue not only relevant to the team performing the autopsy, but also has direct implications regarding the protection of the environment. Prevention strategies including immunization, exposure avoidance by the use of universal precautions and proper infrastructure in the autopsy rooms can go a long way in preventing the occupational hazards of the autopsy rooms [14]. Hutchins and colleagues have recently reported a series of four patients with seropositive HIV infection who came to necropsy and were found to have retained fragments of needles in the subcutaneous tissues of the neck.

Such needle fragments (which were between 10 and 45 mm long) were the legacy of long term intravenous drug use in patients who resorted to deep cervicoclavicular injection when peripheral access became difficult. These cases were (fortunately) not associated with needle stick injury, but staff performing necropsies 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. Needle fragments have also been discovered in the myocardium of intravenous drug users [15]. The risk for occupationally acquired infections is an unavoidable part of daily patient care. Occupationally acquired infections cause substantial illness and occasional deaths among health care workers. Further studies are needed to enhance compliance with established infection control approaches. As health care is being reformed, the risk for and costs of occupationally acquired infection must be considered [16]. Due to the overburden the quality of medico legal work is poor and not up to the mark in comparison with the foreign countries.

Conclusion

A) *Crucial things that needs attention.*

It is said that every case is challenge for the Forensic Expert. Postmortems in Medico legal cases are the mines where we can get the unusual, uncommon, unseen pathological presentation of the disease. It is very much essential in finding out the rare disease, which the clinicians can miss. It is definitely useful in framing the clinical approach for the living patients having absurd presentation of disease and not responding to the usual management. Is it possible to perform histopathology of all organs (Enblock) of every cadaver in present scenario? Which cases can you skip when all cases may be equally important? Diagnosis on gross examination is many times incoherent with the microscopical findings e.g. a case seeming to be tuberculosis of the lungs on gross turns out to be adenocarcinoma of lung on histopathological examination. On mere suspicion and history of poisoning is it necessary to send the viscera in each and every case to rule out the poisoning when clear cut signs, symptoms are noted and diagnosis is made beyond the doubt? The unnecessary postmortems can avoided only if required amount of resources are made available which is a long cherished dream presently. Everything has the bitter and the better sides. Curtailing the unnecessary postmortem is very serious issue and is going in minds of Forensic Experts since long. Its implementation may be having some disadvantages. But the quality of Medico legal care will greatly improve. Thus the innocent victim will get the desired justice. It will also reduce the present risk of the autopsy surgeons and the staff.

B) *Need of the time.*

Working unitedly. Having like minded working groups. Collecting the required data, analyzing, publishing it. Requesting Government to frame the appropriate policies and if desired goals are not achieved through Government filing Public Interest Litigation with a proper acceptable data may be another way to achieve this goal for the cause of humanity.

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