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Case Study

Medical research

### Putrefaction a problem but not a game changer- A case report

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#### ABSTRACT

To fix the identity and explore the exact cause of death along with its manner has a lot of medico-legal importance especially in a putrefied dead body. It becomes practically difficult when body has been recovered from sewage gutter which also alters the decomposition rate. Decomposed bodies are known as floaters. The term should not be confused with bodies recovered from a watery environment. These are known as wet floaters in contrast to the decomposed bodies found on land, dry floaters<sup>1</sup>. Many of times criminal also try to deform the facial features to mask the identity of victim. Under these circumstances' opinion regarding the cause, manner and time of death is framed on the basis of meticulous examination of putrefied body. Such a case was referred to the department of Forensic Medicine PGIMS, Rohtak. The same is described here.

**Keywords:** putrefaction, charring, homicide.

#### INTRODUCTION

Among the various kinds of medicolegal works in forensic medicine, postmortem examination possess maximum contribution. Many times, when an unknown or unidentified body is recovered, it is in the advanced stage of putrefaction which causes hindrance in finding the cause of death especially for Medical Officers and also for police officials. In state like Haryana, where innumerable water sources are present and body is recovered from it, prima facially the police personals register the case as a case of drowning. As per the known fact that putrefaction of bodies increased after removal from water source and due to maggot's activity condition of body deteriorate further this increases the problem for the experts<sup>2</sup>. In such circumstances, it is very difficult for a forensic expert to determine the exact cause and manner of death along with exact time since death. In this case, the body was recovered from the sewerage and was in the advanced stage of decomposition with apparent cause of death was drowning as per police inquest papers.

Meticulous postmortem examination of the body reveals the various interesting facts which will discuss further.

#### CASE HISTORY

A case was referred to the Department of Forensic Medicine, Pt. B.D. Sharma PGIMS, Rohtak by the board of Medical officers. Body was in advanced stage of putrefaction and recovered from sewage gutter. Whole body was naked, smudged with waterweeds and sludge at places. Clusters of eggs of flies were present all over the body. Superficial to deep burns were present over the head, face, neck, anterior aspect of upper chest wall, anterior aspect of both shoulder region and both side of axillae. No red line of demarcation was present between burnt and unburnt area. Muscles around the axillae were exposed and charred at places. Scalp hair were missing except few tufts over right temporal region which were singed at places. Moustaches, beard and axillary hair were singed at places. Both sides of eyebrow and eyelashes were burnt off. Ears, eyes, nose, lips

and tongue were deformed and putrefied. Skin over the scalp, face and anterior aspect of upper chest wall was hard, blackened and leathery in touch at places. The external findings may include leathery consolidation and tightening of the skin and the presence of partly long splits<sup>3</sup>. Eyes were closed. Face was distended. Epidermis was peeled off all

over the body except burn area at places. Both hands and feet were soddened. Abdomen was distended. Penis and scrotum were distended. Rectum was protruding out. All as depicted in Figure 1.



**Figure 1**

A piece of burnt off cloth appeared to be part of pants was firmly adherent to the right side of temporal region of scalp which was preserved along with scalp hair for detection of any inflammable substance. On internal examination, when the neck was dissected the underlying deep muscles were showing extravasations of blood. On further dissection, underlying laryngo-tracheal structures was showing extravasations of blood more over right side at the level of thyroid cartilage and greater cornu was showing inward displaced fracture with infiltration of blood in bony trabeculae of fractured ends.



**Figure-2**

On dissection of thoracic cavity, multiple ribs were found fractured bilaterally at the same level. Right lung was found lacerated with thin fluid blood was found in right hemithorax. Brain was converted into reddish tinged grayish pasty material. No evidence of carbonaceous soot particles in respiratory tract and nasal tract. All the solid viscera were softened and putrefied. Viscera have been preserved for chemical analysis to rule out any intoxicating agent or ethanol. Cause of death was opined as manual strangulation (throttling) coupled with injury to the thorax. Burns were postmortem in nature. Probable time that elapsed between injuries and death was opined as immediate and probable time that elapsed between death and autopsy was opined as between 3-5 days.

## DISCUSSION

Decomposition may cause misinterpretation of medico legally significant ante mortem findings or even reporting of wrong findings. Putrefaction of the body is one of the most significant artifacts. No opinion is better than poor opinion, but still we are forced to comment on the same. We can easily identify some findings in most cases. In some case we

can say certain findings were absent. Both are equally important in diagnosing manner and cause of death. We get bodies in a decomposed state for postmortem examination recovered from water, railway track, closed rooms etc.

The exact chronological order of the appearance of putrefactive changes is highly variable and depends on a broad variety of individual as well as environmental conditions<sup>4</sup>. In present case body was recovered from sewerage and smudged with black coloured sludge which initially leads to misinterpretation of the findings. Prima facially by investigating agency the case was proceeded as a case of drowning. At the time of autopsy, after removal of sludge material interesting findings were come out which change the theory of the case. The above findings were noticed especially the superficial to deep burns which also create ambiguity among the doctors of board. After careful examination, singeing of the scalp hairs were noticed which confirms the presence of burns over the body and absence of red line of demarcation or visible tissue reactions the postmortem nature of burns was confirmed. On further careful examination of neck, the extravasation of blood in the muscle layers and fracture of hyoid reveals the most important aspects of postmortem examination i.e., cause and manner of death.

## CONCLUSION

In forensic medicine practice, examination of decomposed body and comment regarding the cause and manner of death is a challenge. Despite technical difficulties in handling decomposed, colour variation, body changes, maggot

activity etc. the autopsy is still a useful diagnostic exercise. Even though fresh and /or preserved bodies give more information, decomposed bodies also give significant pathological and anatomical features which enable both the cause and manner of death. Even in decomposed injuries including abrasions can be made out and can be differentiated from postmortem injuries.

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