



## Significance of Death Scene Investigation by Forensic Medicine Expert: A Case Report

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### Abstract

The role of the medico-legal expert is regarded as crucial in death investigations. Forensic doctors are often involved in dead body examination and evidence collection, mostly done after the inquest procedure is completed. In India, only police and magistrate conduct inquests as per sections 174 and 176 CrPC, respectively. These individuals have limited knowledge of Forensic Pathology. Since the crime scene investigation and autopsy are handled by different agencies that work in isolation, there is minimal coordination between them. We report a case of an unidentified male whose body was found in an advanced state of decomposition. Autopsy and death scene findings are presented and discussed. The present case emphasises the importance of a death scene visit by a forensic medicine specialist to deduce the manner of death.

**Keywords:** Death scene investigation; Cause of Death; Forensic Medicine Expert; Manner of Death; Medical Examiner's system.

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### Introduction:

Death scene investigation is a major component of any criminal investigation. However, the success of the same depends upon the investigator's expertise. Crime scene examination and subsequent evidence collection require sound medical knowledge and skill, which necessitates the presence of a forensic expert. By viewing the body in the context of its surroundings, the forensic medicine expert is better placed to interpret certain findings at the autopsy.<sup>1</sup> When the same individual visits the crime scene for an inquest, conducts an autopsy, and correlates laboratory findings, the available findings would prove more rewarding. In many

cases, the scene investigation is more important than the autopsy. A thorough and complete investigation commonly leads to the proper diagnosis of the cause and manner of death before an autopsy.<sup>2</sup> However, in India, the death scene investigation is usually performed as a part of the inquest procedure, which is usually done by either police or the magistrate, who lack professional training in Forensic Medicine. Herein, we are reporting a case of an unidentified male whose body was recovered in an industrial suburb. This case report aims to accentuate the need for death scene investigation by the autopsy surgeon and suggest feasible solutions when such visits are not possible.

### Case Report

The dead body of an unidentified male was recovered in an industrial suburb and was found in a drain adjacent to a factory in an advanced state of putrefaction. After the preliminary investigation, a case of unnatural death was registered, and the case

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was booked under section 174 CrPC. No injuries were noted by the police in 146 (ii), and no foul play was suspected. The dead body was subjected to a medico-legal autopsy.

#### ***Autopsy Findings:***

At autopsy, the body was in an advanced state of putrefaction, bloated and distended with putrefactive gases. Maggots and pupae were seen over the body. The body was found to be infested with adult flies. Marbling was present on the front of the chest, arms and thighs. Skin slippage was seen at the front of the chest, both hands and feet. Scalp and beard hair was easily pluckable. His face was distorted, with his nose and part of his lips partially missing. Cloth present on the body was a sleeveless vest soiled with dark brown putrefactive purge fluid. Black-coloured tattoos inscribed "ಅಮ್ಮ" and "ಕವಿತ" were present over the anterior surface of the right and left forearm respectively (**Figure 1**).



**Figure 1: Tattoo marks noted over the anterior surface of the right and left forearm.**

The absence of scalp tissue was noted over an area of 5 X 3 cm over the left temporal region. However, due to the advanced state of putrefaction, this absence's antemortem or postmortem nature could not be ascertained. On reflecting the scalp, a fissure fracture measuring 5 cm in length was present in the left temporal bone extending as a sutural fracture, 3 cm in length in the temporoparietal suture. Other injuries noted were a fissure fracture measuring 14 cm in

length extending from the left frontal bone to the left parietal bone ending 4 cm away from the left parietal eminence and another fissure fracture in the shape of C, measuring 18 cm in length was seen in the left middle cranial fossa extending into the hypophyseal fossa of sella turcica (**Figure 2**).



**Figure 2: Fractures noted over the left temporal, parietal bone, and the left middle cranial fossa.**

The brain was liquefied. No other external injuries were appreciated. All thoracic and abdominal visceral organs showed putrefactive changes. Toxicological analysis of the viscera was negative for the poisons analysed. Time since death in the present case was opined as 5 to 6 days prior to the conduct of the autopsy. Autopsy findings seen were indicative of head injury as the cause of death. However, the manner of sustaining the said injuries was unclear. Hence, a retrospective scene visit was done. The scene where the body was recovered (**Figure 3**) was adjacent to a barbed compound wall of an industry. The said area was a secluded place covered with vegetation 7 metres away from the asphalted road. No blood stains were found at the scene. The tuft of hair was recovered from



**Figure 3: Scene of body retrieval, the arrow indicating the place where the body was found.**

the area where the body was found lying. In addition, a blue-coloured lungi and blue-coloured underwear were also retrieved from the scene.

### Discussion

Ascertaining the cause and manner of death are the key objectives of the medico-legal autopsy. However, in all cases, establishing the manner of death solely based on autopsy findings might not be possible. Whenever a head injury is the cause of death, the manner of sustaining the said injury can be suicidal, accidental, or homicidal. Death from a head injury can occur because of an unintentional fall from a height, a suicide jump from a high building, a push from the roof terrace, assault or even a road traffic accident.<sup>3</sup> When the individual's identity is known, narrowing down the possible manner of death is comparatively easier. In the present case, the individual's identity was not established during the autopsy. In such circumstances, a scene visit by the autopsy surgeon is even more relevant than relying on an inquest report and photographs.<sup>4</sup> Although the exact manner of death was not ascertained, the scene visit helped exclude certain possibilities. The absence of blood stains in the scene of body retrieval excludes the possibility of it being the primary scene to some extent. We could also rule out the possibility of falling from height since the adjacent compound wall was secured with barbs, and the same was found intact. The identity of the deceased was established a month later, based on the clothes recovered from the scene and tattoo marks seen on the body. As per the information from the relatives, the deceased had met with a road traffic accident eight days before the day of the autopsy, after which he was admitted to a hospital. The deceased was said to have gone absconding from the hospital after two days of stay, for which the hospital had intimated the jurisdictional police, and the deceased family also had lodged a missing complaint. The case sheets and investigation reports were obtained from the hospital,

revealing that the patient came with an alleged history of self-fall from a two-wheeler. The patient was drowsy on examination, and his Glasgow coma score was E2V2M5. Injuries documented were an abrasion over the left shoulder, a lacerated wound 1 cm x 0.5 cm x 0.5 cm over the left foot, multiple abrasions of about 2 x 2 cm over the right hand and sutured wound over the left parietal, occipital region. Computed tomography (CT) scan report showed the presence of skull fractures and left frontotemporoparietal subdural haemorrhage.

Due to the advanced state of putrefaction and insect infestation, the external injuries documented in the hospital case sheet were not appreciable at autopsy. However, the injuries seen over the cranial vault and skull base correlated with the CT scan findings confirming that the head injury occurred due to a road traffic accident. The place of recovery of the body is adjacent to the place of his residence. Since it is a secluded place too, the possible reason could be that the deceased might have gone there to answer nature's call on his way back home, which is evident by the fact that his lungi and undergarment were recovered during the scene visit and were not present on the body. The craniocerebral injuries present were fatal, which could have led to the patient's death. The reason for the deceased absconding from the hospital was not known. A patient suffering from traumatic brain injury absconds from the hospital while under treatment for various reasons. Although such instances are more commonly reported among psychiatric patients, it is reported among patients with a head injury as well.<sup>5</sup> The most significant factors for absconding behaviour include exhaustion and hopelessness, aversion to hospitals, drug and alcohol abuse, poisoning, drug overdose, behavioural disorders, failure of therapy, unemployment, and getting unfavourable news.<sup>6</sup> The case emphasizes the need for a scene visit by the forensic pathologist to correlate

the autopsy findings. However, the major hurdle in India is that the present inquest system involves only the police/magistrate. India needs a better inquest system where specially trained and skilled forensic medical experts should play a key role in conducting the medico-legal autopsy and routinely examining the death scene.<sup>7</sup> With the current inquest system in place, recruitment of scene of crime officers by the Government of Karnataka is a welcome move which would strengthen the crime investigation and a feasible solution. These officers are dedicated civilian experts who will take over the responsibilities of securing a crime scene, collecting forensic evidence, and storing them.<sup>8</sup>

### Conclusion

Involving forensic personnel in the inquest procedure is essential since inspecting a crime scene and gathering evidence requires sound scientific knowledge and expertise. Even before an autopsy, a comprehensive investigation frequently results in the correct determination of the cause and manner of death.

### References

1. Demirci S, Hakan K. Death scene investigation from the viewpoint of forensic medicine. Expert Verlag [internet]; 2011. Journal of Forensic Medicine - From Old Problems to New Challenges. InTech. doi: [10.5772/18161](https://doi.org/10.5772/18161).
2. Kumar B, Singh NP, Singh N, Goel N. Importance of crime scene visits by a forensic medicine expert: A survey-based study. Cureus. 2022;14(7):e26775. doi: [10.7759/cureus.26775](https://doi.org/10.7759/cureus.26775), PMID [35836711](https://pubmed.ncbi.nlm.nih.gov/35836711/).
3. Menezes RG, Monteiro FN. Forensic autopsy. In: Treasure Island, (FL): StatPearls Publishing. p. 2023 Jan-; Updated 2022 September 5. Stat pearls [internet]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK539901/>.
4. Pathak AG, Chaudhari KM, Gadhari RK, Devraj NA, Jadhao VT, Gavale PS. Visit to a scene of crime to determine manner of death. Medico-Legal Update. 2017;17(2):192-6. doi: [10.5958/0974-1283.2017.00097.4](https://doi.org/10.5958/0974-1283.2017.00097.4).
5. Manchester D, Hodgkinson A, Pfaff A, Nguyen G. A non-aversive approach to reducing hospital absconding in a head-injured adolescent boy. Brain Inj. 1997 April;11(4):271-7. doi: [10.1080/026990597123575](https://doi.org/10.1080/026990597123575), PMID [9134201](https://pubmed.ncbi.nlm.nih.gov/9134201/).
6. Moradpour M, Amiresmaili M, Nekoei-Moghadam M, Dehesh T. The reasons why patients abscond from public hospitals in southeastern Iran: a qualitative study. Arch Public Health. 2021;79(1):106. doi: [10.1186/s13690-021-00634-z](https://doi.org/10.1186/s13690-021-00634-z), PMID [34144716](https://pubmed.ncbi.nlm.nih.gov/34144716/).
7. Menezes RG, Arun M, Krishna K. Death investigation systems: India. Encyclopedia of forensic and legal medicine; 2016. p. 18-24. doi: [10.1016/B978-0-12-800034-2.00396-7](https://doi.org/10.1016/B978-0-12-800034-2.00396-7).
8. In a first, Karnataka to have scene of crime officers. The Hindu [Newspaper on the internet]. News [cited Jun 06 2023]. Available from: <https://www.thehindu.com/news/national/karnataka/in-a-first-karnataka-to-have-scene-of-crime-officers/article35291760.ece>; 2021 July 13.