
CASE REPORT**A Challenging Crime Scene Investigation Report: Alleged Murder, Unravelled the Mystery as Lightning Death**

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Abstract:

Challenges arise to the crime scene investigators when dealing with dead body investigation. The body posture may cause confusion to explain even during natural disasters like flood, lightning and storm. Suspicious death, more than traditional foul play is suspected in which the circumstances of death strongly suggest murder. The present crime scene report, as investigated by the corresponding author (hereafter as TN) in Tamil Nadu, India, during his crime scene investigator career, wherein a middle-aged village woman found dead in an open land with bleedings from nose and ear. The relatives and the villagers have alleged murder and demanded the police for the immediate arrest of the accused. The police registered a case under “suspicious death” and investigated by then forensic crime scene investigator and assisted the police investigation. The method of investigation was a keen scientific observation on dead body, crime scene and reconstruction to identify the case of death. The examination of the deceased revealed a linear burned marks on the thigh region, charred mark in a dried palm leaf that used to cover the head from rain, and charred grasses on the soil near the dead body that clearly indicated the death due to lightning. The present investigation concluded with a finding, based on crime scene, crime reconstruction and autopsy examination that the cause of death was due to lightning and not by homicide, thus unravelled the mystery.

Keywords: Crime Scene Report, Suspicious Death, Alleged Homicide, Lightning Death, India

Introduction:

A scene of crime is dynamic, just like crime itself and the first officer visited at a crime scene and guard the scene that are likely to be disturbed or damaged by the public, onlookers and environmental factors [1]. Improper crime scene preparation and lack of knowledge in evidence handling have been cited as some of the challenges experienced at the crime scenes, [2] in particular death investigation [3]. This may occur in the context of hanging or body found in non-residential or outdoor area. The body posture may cause confusion to the forensic crime investigator to explain what happened in the crime scenes [4]. Again, natural disasters like flood, drought, lightning and some diseases may also create confusion to arrive the cause of death [5]. Suspicious death is more than traditional foul play is suspected in which the circumstances of death strongly suggest murder [6]. In the same way, murderers are also cautious in the disposal of the dead bodies after their act of murder, an act of crime concealment. It is hard to initiate the investigation process to identify the primary crime scene and clarify crime by the responsible, confused state of “no dead body, no crime” [7]. Crime scene investigators should apply expert knowledge based scientific training, experience and basic knowledge in various fields such as science, engineering,

medicine, anthropology, odontology and psychology [8]. In the present case study reported in India, wherein a middle-aged village woman found dead in an open land with bleedings from nose and ears and the relatives and villagers have alleged murder and demanded the police officer to arrest the accused immediately. Hence the forensic crime scene investigator, from Tamil Nadu Forensic Sciences Department, India was requisitioned by the Police Officer. Accordingly, the corresponding author, former CSI Tamil Nadu (TN) visited the scene to assist the police and solved forensically the mystery.

Case Report:

A female dead body found in an open field, in the outskirts of a village with bleedings from nose and ears (Fig. 1). Many villagers, including relatives found gathered near the dead body area. The first officer, on arrival regulated the crowd and guarded the scene at midnight. The Inspector of Police also arrived at the scene and a case was registered under suspicious death and requisitioned the service forensic crime scene investigator. On receipt of the message from Inspector of Police, TN arrived the crime scene at mid night itself and made a thorough observation on the dead body and scene. The deceased belonged to a nearby village, familiar to the villagers and she worn saree, blouse and petticoat, a characteristics village attire of South India who was a farming worker with poor background. The ornaments worn by her were plastic bangles, ear stud, nose stud, and a black sacred thread attached with metal capsule. A black color sticker “Kumkum” appeared on the center of the forehead and found intact. Another important observation made was that she worn old slippers in her feet and right slipper still found intact with her

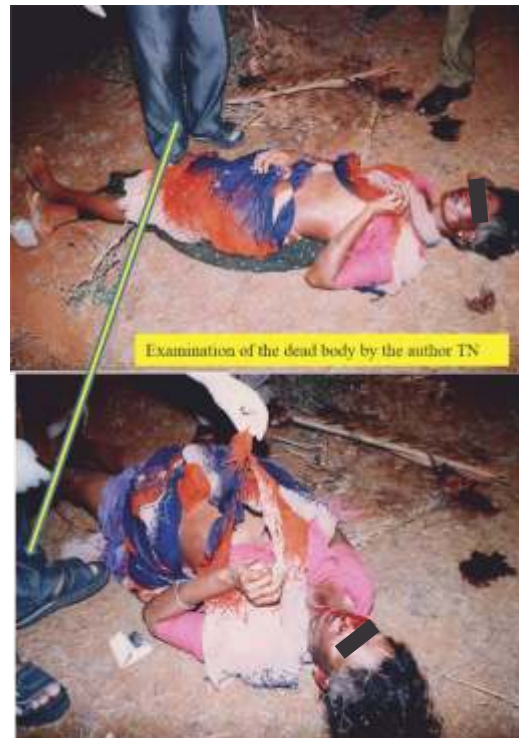


Fig. 1: Examination of Crime Scene and Dead Body by the Author (TN) at Midnight



Fig. 2: Burnt Mark on Right Thigh with Intact Footwear in Right Foot

foot and the left one found nearby. This keen observation clearly ruled out the possibility of struggling before death. The author observed torn marks on the neck region of the blouse and saree. Surprisingly, the author noticed a small wing like knitted coconut leaf, attached with a twisted rubber cord near the dead body with a charred mark at an edge of the leaf. Those days in village areas, dry knitted coconut leaves were used for roof thatching, making small mat, and basket etc. Also, villagers used the woven coconut leaves as an improvised umbrella to cover the head during rainy times. Also noticed scorching of grasses on the open ground near the dead body is a clear scientific evidence of lightning strike on the lady and grasses.

Crime Reconstruction and Discussion:

In general, the death scene is very critical to the forensic crime scene investigator. A death investigation is an art to examine carefully the scene and deceased for the presence of linking evidence or unusual circumstances that may indicate the death of a person. Based on the observation on the dead body and scene, the author reconstructed the event as follows: The village woman might have left the house with her old sandals for some outdoor work at the rainy time. She should have covered her head with a woven coconut leaf in the open field and the fact of her outdoor work was accepted by the family members. On her way in the open field, there might be a slight down pour or drizzling with lightning and thundering. Energy levels of lightning have been calculated to be as high as 30 million volts and cause exposure to temperature as high as 3000⁰ C [9]. Thus, on her way in the open field, the woman should have been struck by lightning while

walking with coconut leaf as head cover. Tall and isolated objects in open areas are the primary targets for the lightning strikes. Lightning causes instant death during direct strikes.

Lightning strikes, not only kill the human beings [10-12], but also animals [13] in addition to the damages of environmental objects such as trees [14], buildings [15] and many others. The death of woman should have instant as observed by the presence of footwear (sandal) still intact in right foot. The fact of lightning strike was further confirmed by the presence of charred grasses and charred woven at the edge of coconut leaf, multiple torn marks on blouse, saree with a linear burnt mark on right thigh, blood discharges from nose and ear. The way of lightning might be direct strike since the current discharged directly through the body and caused extensive thermal injuries [16].

After completed the crime scene investigation and documentation, the dead body was sent to Department of Forensic Medicine for autopsy examination. The autopsy investigation confirmed the lightning death with primary cardiac arrest and cerebral injuries [17]. Lightning can cause cardiac arrest and cause direct injury to the brain and nervous system [18]. Studies were conducted on patients with burn injuries [19] and death by accidental fall [20]. In homicide, sexual assault and burglary cases, physical evidence such as foot impression found at the crime scenes provide preliminary information for the estimation of stature [21], gender [22] and body weight [23] that led to individual identification in forensic perspective. Even the presence of trace evidence like soil [24], hair [25], and even saliva [26] can strengthen the weak chain of the investigation link. There are instances wherein some of the investi-

gating officers have underestimated the value of trace evidence and neglected even in the initial stage of investigation and thus lost the chance of solving the crime forensically [27].

Conclusion:

In this present case report, a suspicious death investigation by forensic science and forensic medicine experts confirmed the cause of death as lightning strike, and ruled out the homicide, as alleged by the relatives and villagers. The findings highlight the importance of keen crime scene

observation in the death scene pinpointed the cause of death in a confused and mysterious situation.

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References

1. Nataraja Moorthy, Santhra Segaran B, Srinivasan M. Suspicious death – Trace evidence identified the complainant as accused. *Int J Med Tox Leg Med* 2020; 23(1&2):117-119.
2. Ajit GP, Ramesh KG, Piyush SG, Kapileshwar MC, Nilesh AD. Importance of visit to the scene of crime to determine manner of death – A case report. *J Krishna Inst Med Sci Univ* 2018; 7(1): 115-118.
3. Nataraja Moorthy T. Forensics of suspicious death. *Tamilnadu Police J* 2007; 1 (3): 78-99.
4. Nataraja Moorthy T, Murty OP. Suspicious death – Crime scene evidence indicated the cause of death: An interesting multiple death case report. *Int J Med Tox Leg Med* 2019; 22 (1&2): 5-7.
5. Geetha M, Sugan Balaji M. Profile of selected lifestyle disease risk factors among adolescent school students in an industrial area of Vellore district, Tamilnadu. *J Krishna Inst Med Sci Univ* 2019; 8(4):77-88.
6. Nataraja Moorthy T. A suicide case with a homicidal simulation - Case report of a real fabricated crime scene. *Int J Med Tox Leg Med* 2020; 23(3&4):128-130.
7. Nataraja Moorthy T. Identification of primary crime scene through soil evidence in a crime concealment case: An interesting exhumation report. *J Krishna Inst Med Sci Univ* 2020; 9(4):98-103.
8. Nataraja Moorthy T. Forensic engineering investigation on a collapsed school building involved multiple deaths: A real case report. *Saudi J Engg Tech* 2021; 96(2):17-19.
9. Auerbach et al. Lightning injuries. In book: Wilderness medicine. 2016; 7th Edition. Publisher: Elsevier.
10. Omvir S, Jagdeep S. Lightning fatalities over India: 1979-2011. *Meteorol Appl* 2015; 22:770-778.
11. Murty OP, Kian CK, Ari Husin MH, Rajiv Kumar NK, Mohammad Yusuf WY. Fatal lightning in Malaysia: A review of 27 fatalities. *Am J Forensic Med Pathol* 2009; 30(3):246-252.
12. Chao TC, Pakiam JE, Chia J. A study of lightning deaths in Malaysia. *Sing Med J* 1981; 22(3):150-157.
13. Schulze C, Peters M, Baumga W, Wohlsein E. Electrical injuries in animals, pathogenesis, and morphological findings. *Veter Pathol* 2016; 53(5): 1018-1029.
14. Scot CN. Lightning injuries to plants. *Plant Disease* 2008; 40:1-5.
15. Ya PD, Mingli C. Influence of building structures on the lightning return stroke current. *IEEE Trans Power Deliv* 2010; 25(1):307-315.
16. Aravind VP, Preethi KM, Ritesh GV, Manjunath SK, Sanjeev R. Topical Heparin: A better sanative for burns patient than conventional treatment. *J Krishna Inst Med Sci Univ* 2019; 8(4):42-49.
17. Derek ME, Jonathan DCW. Death and injuries from lightning in the UK, 1988-2012. *Weather* 2014; 69(8):221-226.
18. Vavrek JR, Kithil R, Holle RL, Allsopp J, Cooper MA. The science of thunder. *Earth Sci* 2006; 22(3): 5-9.
19. Kiran TS, Chetan L. Study of organisms causing septicemia among burn patients in a tertiary hospital, Tumkur. *J Krishna Inst Med Sci Univ* 2018; 7(1): 67-74.

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20. Savika SP, Suryanarayana SP, Dinesh R, Murthy. Circumstances and consequences of falls in community-living elderly in north Bangalore, Karnataka. *J Krishna Inst Med Sci Univ* 2015;4(4): 27-35.
 21. Nataraja Moorthy T, Ivan Nikkimor LD, Pravina D. Determination of stature from hand anthropometry among Visayan population in Philippine for person identification. *J Krishna Inst Med Sci Univ* 2019; 8(4):58-65.
 22. Nataraja Moorthy T, Rajathi S. Sexual dimorphism from palm print ridge density among Malaysian Tamils for person identification. *J Krishna Inst Med Sci Univ* 2020; 9(1):51-57.
 23. Nataraja Moorthy T, Noor Hafizah H, Henky. Body weight estimation from hand anthropometry among Minangs, an indigenous ethnic group in west Sumatra, Indonesia for person identification. *J Krishna Inst Med Sci Univ* 2021; 10(2):35-42.
 24. Nataraja Moorthy T, Siti Hasmah A. comparative study of subsoil profile in southern end of gold ground, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia by density gradient tube technique. *J Indian Acad Forensic Sci* 2011; 43(1&2): 9-18.
 25. Nataraja Moorthy T, Jessica Marie Roy JR. Study on hair morphology to distinguish the dominant races in Malaysia for forensic investigation. *J Forensic Sci Criminol* 2015; 4(3): 1-6.
 26. Renita LC, Subash GB, Suchetha K, Medhini M, Supriya B, Harshini U. Salivary cotinine levels as a biomarker of tobacco use – A biochemical study. *J Krishna Inst Med Sci Univ* 2017; 6(4): 96-104.
 27. Nataraja Moorthy T. Neglected physical evidence during crime scene investigation. *Forensic Sci Addi Res* 2017; 1(2): 1-2.
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