

January-June 2024

Volume 33

Issue 1

PRINT ISSN: 2277-1867

ONLINE ISSN: 2277-8853



# JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW

Official Publication of Medicolegal Association of Maharashtra

**Editor-in-chief**

Dr Ravindra Deokar

**Associate Editors**

Dr Sadanand Bhise

Dr Sachin Patil

**MULTISPECIALITY, MULTIDISCIPLINARY, NATIONAL  
PEER REVIEWED, OPEN ACCESS, MLAM (SOCIETY) JOURNAL  
Indexed with Scopus (Elsevier) & Index Copernicus (Poland)**

**Editorial Office Address**

Department of Forensic Medicine & Toxicology, Third Floor, Library Building, Seth G S Medical College & KEM Hospital, Parel, Mumbai, Maharashtra, India. Pin-400 012. Email id: [mlameditor@gmail.com](mailto:mlameditor@gmail.com) Phone: 022-24107620 Mobile No. +91-9423016325.



# JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW

(Official Publication of Medicolegal Association of Maharashtra)

Email.id: [mlameditor@gmail.com](mailto:mlameditor@gmail.com)

PRINT ISSN:

2277-1867

ONLINE ISSN:

2277-8853

## Case Report

### **Crime Scene visit and Meticulous Autopsy in Decomposed Body Yields Fruitful Results**

Ravindra B Deokar<sup>a</sup>, Mahesh K Akare<sup>b\*</sup>, Harish M Pathak<sup>c</sup>, Sachin S Patil<sup>d</sup>

<sup>a</sup>Professor (Additional); <sup>c</sup>Professor & Head, Department of Forensic Medicine & Toxicology, Seth G S Medical college & KEM Hospital, Parel, Mumbai-400012. <sup>b</sup>Senior Resident, FMT, GMC Nagpur, Maharashtra, India.

<sup>d</sup>Associate Professor, Department of Forensic Medicine & Toxicology, Lokmanya Tilak Municipal Medical college & LTMG Hospital, Sion, Mumbai-400022.

#### Article Info

**Received on:** 08.04.2023

**Accepted on:** 15.03.2024

#### Key words

Decomposition  
Changes,  
Forensic Expertise,  
Autopsy surgeon,  
Hanging,  
Unnatural deaths.

#### Abstract

Decomposition makes post-mortem examination more complicated due to distortion and changed tissue morphology. Decomposition of dead body refers to multiple degradation processes occurred in organism after death. It is the combined effect of tissue self-digestion causing autolysis and the bacterial overgrowth leading to tissue putrefaction. Hence, it is not easy to find out a definite cause of death at the end of postmortem examination in such decomposed bodies. But sometimes meticulous autopsy, crime scene visit and appropriate guidance to investigation authorities helps to solve the case and yield fruitful results even in cases advanced decomposition changes.

#### 1. Introduction

Hanging is one of the most common methods of suicide worldwide with an estimated fatality rate of over 90%.<sup>1</sup> In hanging cases, the cause of death is mainly due to asphyxia due to Neck structures compression and most commonly are suicidal in nature.<sup>1,2,3</sup> Hanging has been defined as a form of violent asphyxial death in which the pressure on the neck is applied by a constricting band which is tightened by the gravitational force acting on weight of deceased body.<sup>4</sup> Depending on suspension and force acting for neck compression, hanging is classified as complete or incomplete. In incomplete hanging the suspension usually at low level leading to the touching victim's body, feet or legs to the floor. The most common place chosen by the suicidal victim is inside house when no one is present or all asleep or isolated and secluded areas like forest where body remained unnoticed for long time and not found till abnormal smell perceived by

someone or decomposition changes got evident distantly. Though the cases of suicide by hanging are in huge number but no much literature is available about advanced decomposition on suspended dead bodies.<sup>5</sup>

#### 2. Case history:

A 31 years old, working female, who has lost her job during covid-19 pandemic found hanged at her flat with ligature around neck and with decomposition changes [Fig. 1].

#### 3. Postmortem findings:

On external examination, the body evident with decomposition changes. No any significant injuries seen on body except ligature mark around neck. Yellowish fluid was oozing from nose and mouth with evidence of pupae. No any fracture evident on palpation, but a significant words were visible on anteromedial aspect of right thigh written with blue-black marker ink pen, i.e. "..... You are

**How to cite this article:** Deokar RB, Akare MK, Pathak HM, Patil SS. Crime Scene visit and Meticulous Autopsy in Decomposed Body Yields Fruitful Results. J Forensic Med Sci Law. 2024;33(1):76-78. doi: [10.59988/jfmsl.vol.33issue1.14](https://doi.org/10.59988/jfmsl.vol.33issue1.14)

\*Corresponding author: Dr Mahesh Akare. Senior Resident, FMT, GMC Nagpur, Maharashtra, India.. Email: [drmaheshakare@gmail.com](mailto:drmaheshakare@gmail.com) (M): +91- 9588479715.

chosen, You are blessed, You are forgiven". [Fig. 2].

**Figure 1: Deceased found in hanging state at her residence**



**Figure 2: Suicide note written by deceased**



An oblique ligature mark of total length of 30cm with 03cm width was present around neck which is running backwards and upwards. Total neck circumference was 38cm. Inverted 'V' mark evident against left mastoid. Further internal examination shows: Head was open firstly, where greenish, soft

pultaceous mass present. All internal organs were soft and decomposition grossly evident. Heart becomes soft, flabby brownish mass, lungs were collapsed, soft greenish mass, stomach was empty with mucosa blackish discoloured. Uterus was intact and empty. Subcutaneous tissues over whole body shows blackish discoloration. On neck dissection no any hemorrhages seen. Hyoid bone and thyroid cartilage were intact. Remarkably tissue adjacent to ligature mark shows more evident decomposition changes compared to structures under ligature mark. **Cause of death:** Evidence of obliquely placed ligature mark over neck. Viscera preserved for chemical analysis, and tissues for histopathological examination.

#### 4. Discussion

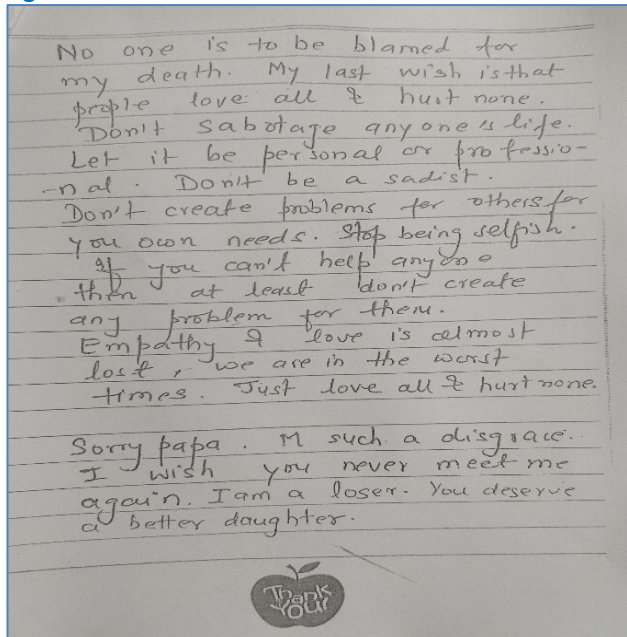
Decomposition is a sequential process. It is influenced by a various complex interaction of biotic factors (i.e. bacteria and insects) and abiotic factors (i.e. weather conditions) among which temperature and moisture. The postmortem changes can be still divided into two main groups: destructive phenomena (i.e. putrefaction) and other is conservative phenomena, which depend mainly on the external environmental conditions (i.e. maceration seen in immersed bodies, mummification seen in hot dry environment).

Decomposition is a quite complex interaction between intrinsic and extrinsic factors producing individual pattern of decomposition and insect colonization. The immediate post-mortem changes happen as a competitive result of putrefaction and desiccation. In this regard the presented case was studied and significant difference in decomposition changes observed in tissues under the ligature mark and tissues surrounding the ligature mark. This is mainly due to compression over neck causes the dissipation of tissue fluid and blood in surrounding tissues of applied pressure by ligature mark. Different compounds and gases produced by the breakdown of soft tissues during the decomposition and use them to locate the more suitable food resource for their offspring. Larval infestation for most of the blowflies is usually hindered by the rapid dehydration of the skin surface, facilitated in hanging bodies by the early putrefactive fluids falling on the drip zone. Due to gravity, the larvae may have fallen down in hanged bodies. Hence, there may be less internal maggots in totally suspended hanging body.

In decomposed body, it is challenging for autopsy surgeon to opine about cause of death and

manner of death. But in death due to ligature around neck the difference in changes under compression mark compared to surrounding tissue might be helpful to autopsy surgeon to opine about cause even if body found in early or moderately decomposed state. The rate of putrefaction is less in the tissue below the ligature as the blood was driven out due to compression.<sup>6,7</sup>

**Figure 3: suicide note found at crime scene**



From the details of all police documents and reinvestigation of the crime scene is always helpful. In this case a suicide note was found [Fig. 3], no dragging marks or signs of struggle was observed at the crime spot. The writing in the note and the handwritten note found on deceased body were matched with her handwriting in the diary. The case study presented in this paper shared the manner of death (suicide by hanging) even with significant decomposition.<sup>8</sup> Timely intervention and guidance by medicolegal expert facilitate to prevent erroneous conclusion.<sup>9</sup>

## 5. Conclusion

A visit to crime scene, careful documentation and analyzing the circumstantial evidences with meticulous autopsy helpful to guide the investigation officer to guide on the manner of death and helpful to resolve the case with positive conclusion.

## 6. Recommendations

Proper thorough investigation of crime scene or crime scene visit by forensic doctors should be done in a medicolegal case of decomposed deceased. Meticulous autopsy helpful to find out cause and manner of death in decomposed body.

Histopathological examination may helpful to rule out antemortem or postmortem injuries.

**Contributor ship of Author:** All authors equally contributed.

**Conflict of interest:** None to declare.

**Source of funding:** None to declare.

## References:

1. Sukhadeve RB, Sonawane SS, Kolle SR, Trends of Suicidal Hanging in western Mumbai Region. J Forensic Med Sci Law. 2019;28(1):6-10.
2. Patil SS, Deokar RB, Vidhate SG, Tyagi S. An atypical case of suicidal cut throat injury. Egyptian J Forensic Sci. 2016; 6: 492-5.
3. Bardale R V, Ninal N S, Hanging in a custodial death: A 10-year analytical study. J Forensic Med Sci Law. 2019;28(1):3-5.
4. Khan S, Husain BN, Quazi S, B.H. Tirpude BH. Autopsy-Based Demographical Profile of Hanging Victims in A Rural Area of Central India. J Forensic Med Sci Law. 2022;31(2):19-22.
5. Ambade VN, Keoliya AN, Deokar RB, Dixit PG. Decomposed bodies—still an unrewarding autopsy? J Forensic legal med. 2011 ;18(3):101-6.
6. Kanchan T, Atreya A, Babu YR, Bakkannavar SM. Putrefaction, hanging and ligature mark. Int J AJ Inst Med Sci. 2014;3(2): 112-8.
7. Byard RW, Tsokos M. The challenges presented by decomposition. Forensic Sci Med Pathol. 2013; 9:135-7.
8. Austin AE, Byard RW. Skin messages in suicide—an unusual occurrence. J Forensic Legal Med. 2013;20(6):618-20.
9. Prakash A, Thangaraj K, Sanjeev K, Singh OG. A Suicide Claimed As A Homicide - Role of Medical Evidence to Untie. J Forensic Med Sci Law. 2023;32(1):106-9.