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## Distinguishing homicide from suicide: A forensic investigation into a staged crime scene

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### Abstract

Distinguishing between homicide and suicide is a critical challenge in forensic science, particularly in cases involving staged crime scenes where offenders deliberately alter evidence to mislead investigators. This study examines a case where a homicide was staged to appear as a suicide by hanging. Through detailed crime scene analysis and postmortem findings, inconsistencies emerged that suggested foul play. Irregular ligature marks, severe cranial trauma, and signs of a struggle were key indicators pointing toward homicide. Additionally, physical evidence such as scattered personal belongings, blood stains, and drag marks suggested an initial assault that was followed by a staged suicide attempt. Autopsy findings confirmed multiple skull fractures and significant brain hemorrhage as the cause of death, leading to a diagnosis of homicide. This case study underscores the importance of an interdisciplinary forensic approach, utilizing pathology, behavioral analysis, and crime scene reconstruction to identify staged scenarios. Advanced forensic techniques play an essential role in differentiating between homicide and suicide, allowing investigators to discern deceptive practices and uncover the truth in complex cases.

**Keywords:** Staged crime scene, forensic investigation, homicide, suicide, crime scene analysis, ligature marks, postmortem findings

### Introduction

In forensic science, determining whether a death is a result of homicide or suicide is a fundamental and challenging task, especially when the crime scene may be staged to mislead investigators. Staging occurs when an offender deliberately alters a scene to mask the true nature of a death, often by making a homicide appear as suicide (Geberth). Distinguishing between these scenarios requires meticulous forensic analysis, where even subtle discrepancies in evidence can be significant. Various studies have highlighted the complexities involved in recognizing staged crime scenes, especially in cases where trauma or other misleading evidence obscures the intent behind the act (Byard; Hiss and Freund). One of the primary considerations in such investigations is understanding typical forensic markers associated with both homicide and suicide. For example, suicides tend to present with specific characteristics, such as the location of wounds or access to lethal means that may differ significantly from patterns observed in homicides (DiMaio and DiMaio). Forensic experts often rely on both physical and behavioral evidence to discern inconsistencies, as well as a thorough examination of the victim's history and psychological state (Benecke). Nevertheless, cases of staged suicides continue to test the limits of forensic methods, as perpetrators attempt to fabricate scenes by manipulating physical evidence, using weapons in atypical ways, or positioning bodies to suggest self-inflicted harm (Turvey).

### Aims and Objectives

The primary aim of this research is to explore forensic techniques and methodologies used to differentiate between homicide and suicide in cases where the crime scene may have been staged. Specific objectives include:

1. To identify and examine forensic markers that differentiate between staged and authentic crime scenes.
2. To analyze the physical evidence and postmortem findings that indicate signs of homicide disguised as suicide.
3. To underscore the importance of an interdisciplinary approach in forensic science, integrating forensic pathology, behavioral evidence, and crime scene reconstruction to accurately interpret complex cases.
4. To provide insights into the forensic challenges posed by staged crime scenes and contribute to best practices for forensic professionals in investigating ambiguous deaths.

### Research Methodology

This research employed a qualitative, inductive approach to analyze the forensic investigation of a staged crime scene, focusing on distinguishing between suicide and homicide. Data was collected through both primary and secondary sources. Primary data included observations and measurements taken at the crime scene, using systematic forensic methods to document the scene's layout and the position of physical evidence. Key materials, such as ligature items, clothing, bangles, and blood-stained soil, were collected and preserved for laboratory testing. Secondary data was gathered from a review of relevant forensic literature, case studies, and journal articles, providing contextual insights into typical patterns of suicide versus homicide and the forensic markers associated with staged crime scenes. The methodology emphasizes a multidisciplinary analysis combining forensic pathology, behavioral analysis, and crime scene reconstruction to evaluate the evidence thoroughly and address inconsistencies that might suggest staging.

### Observation

On January 2023, Dipka Police Station reported that an unidentified woman had been discovered hanging from a noose in a large house within their jurisdiction. A forensic investigation was requested. Upon receiving the report, the designated officials arrived at Dipka Police Station along with a driver, where they met with station staff and officers to gather preliminary details regarding the incident. Subsequently, the team proceeded to the crime scene for an in-depth examination.

At the scene, the body of an unidentified woman was observed hanging by a gamchha (traditional cloth) from the main trunk of a Kahua tree. The gamchha was secured around the trunk, with one end tied to the middle of the trunk and the other around the woman's neck, resulting in her body partially suspended. The deceased's head was positioned near the tree's trunk, facing downwards. The head pointed southward, while the feet were oriented northwest. Her left hand rested on the ground with a closed fist, and her right arm was bent towards her chest. The noose around her neck was approximately 1 foot 3 inches from the ground, while the distance from the tree trunk to the noose was measured at 2 feet 8.5 inches, and the length of the gamchha from the trunk to her neck was 5.5 inches.

Blood stains were observed approximately 1 foot from the woman's feet, with additional evidence including green and blue bangle fragments, blood marks, and drag marks identified 12 feet 7 inches to the right. A condom packet lay roughly 3 meters from the body, and scattered fragments of

ladies' slippers and bangles were found around 25 meters northwest of the body.

After cutting the noose to closely inspect the body, officials noted that the deceased's face and forehead were heavily blood-stained. Her eyes were closed, with swelling around the right eyelid, and her lips were slightly parted with the tongue positioned between them. An asymmetrical ligature mark encircled her neck. The deceased was dressed in a red, black, and gray saree, with a pink petticoat and a green blouse, while the ligature was a checked red and black gamchha. A deep wound was evident at the back of her head, accompanied by a scratch near her left thigh and a distinct injury on the back of her palm. In the presence of a female constable, the appointed female panchan inspected the private areas and anus, reporting them to be clean.

### Keys of observation

1. If the deceased has hanged herself, then why was her ligature mark found irregular and no oblique mark was found!
2. If the deceased was hit on the head, then how would she walk and tie the noose herself?
3. The private parts and anus of the deceased were found clean!
4. If the deceased had come to hang herself, then she should have hanged herself on a branch and not on a slippery trunk!
5. The ligature material has slid down from the tree which shows that the deceased was already dead and hence the noose had slid down due to her weight.
6. If the deceased hanged herself then why and how would she break her bangles after coming down from the noose and scatter them and leave blood marks.
7. The deceased has a deep injury on her head and scratch marks on her thighs. At some distance from her, bangle pieces and dragging marks along with blood stains are visible which confirms that someone tried to rape the deceased.  
The deceased struggled there and during this time some unknown person hit her on the head.
8. The deceased's slippers were found at a distance of about 25 meters and pieces of bangles were also found. This confirms that the deceased struggled there and then she ran and reached the tree where some other person, who could be the accused, chased her. During this, the deceased's slippers were left behind and the accused tried to force himself on her and committed the crime by hitting her on the head.
9. A condom was found at the crime scene. This means that an unsuccessful attempt must have been made to rape her.
10. Postmortem Key Findings of the Deceased:

Multiple depressions observed on the left parietal and temporal bones of the skull, with the brain exhibiting signs of rupture.

**Mode of death:** Syncope resulting from massive hemorrhage in a critical area of the brain.

**Nature of death:** Homicidal.

This finding further validates that the death was homicidal in nature rather than self-inflicted.

## Discussion

The forensic investigation of a staged crime scene presents unique challenges that require careful examination of both physical evidence and behavioral indicators. The case described involves an alleged suicide staged to disguise a homicide, where multiple inconsistencies point towards foul play rather than self-harm. The findings underscore the complexities of discerning homicide from suicide in cases where perpetrators manipulate the scene to mislead investigators, often by creating an apparent self-inflicted hanging that, upon closer inspection, reveals evidence of violence (Byard; Geberth).

In the present case, several key factors support the theory of homicide over suicide. First, the irregular and non-oblique ligature mark around the victim's neck contradicts typical signs of suicidal hanging, which often leaves a distinct upward-slanting mark due to the position of the ligature (DiMaio and DiMaio). This suggests that the ligature may have been placed after the victim was deceased or incapacitated. The discovery of blood stains, fractured bangles, and drag marks at a distance from the body indicates a struggle, further supporting the hypothesis of an assault prior to death (Hiss and Freund). Moreover, the deep head injury identified during the autopsy, which resulted in significant brain hemorrhage, raises doubts about the victim's ability to independently initiate the hanging. Severe cranial injuries would likely impair or incapacitate a person, rendering it improbable for them to then climb a tree and tie a noose (Turkey).

In staged crime scenes, the location and condition of evidence items such as the victim's clothing, jewelry, and personal effects can be pivotal. Here, the scattered bangles, broken slipper, and blood stains positioned away from the primary scene imply that the victim was initially assaulted elsewhere before being relocated to the tree, presumably to create the illusion of suicide (Byard). Furthermore, the presence of a condom packet suggests a possible sexual assault attempt, though no physical evidence of assault on the victim's body was noted. This aligns with the behavioral aspects of staging, where the offender may attempt to manipulate or fabricate details to mislead investigators about the circumstances of the death (Geberth; Turkey).

The autopsy findings provide additional support for a homicide determination. Specifically, the presence of multiple fractures on the parietal and temporal bones, coupled with the internal brain rupture and massive hemorrhage, suggest trauma inconsistent with a self-inflicted injury. Syncope resulting from brain injury was established as the cause of death, reinforcing the likelihood of a pre-mortem assault rather than a suicide (Benecke). Additionally, the clean condition of the victim's private areas, despite the disturbed scene and presence of a condom, may imply that the perpetrator's intention was to stage the scene without directly involving sexual violence.

This case study highlights the necessity for forensic investigators to approach each potential suicide scene with skepticism, especially in cases where evidence of trauma or altered positioning is evident. Investigative methodology in staged crime scenes requires integration of forensic pathology, criminology, and behavioral analysis to evaluate inconsistencies within the physical evidence, crime scene arrangement, and victim profile. Recognizing signs of staging involves not only detecting physical manipulation of the scene but also understanding the behavioral motivations

that could drive a perpetrator to obscure a homicide as a suicide (Turkey; Byard).

The importance of multidisciplinary collaboration in forensic cases involving staged crime scenes is crucial, as specialists from different fields contribute unique perspectives that collectively aid in discerning the true nature of the event. This case underlines the effectiveness of an interdisciplinary approach, drawing on forensic pathology, crime scene reconstruction, and psychological profiling to uncover critical details obscured by the staged setup. Advances in forensic science, including the development of more sensitive tools for detecting blood traces, DNA, and trauma markers, are invaluable in addressing the challenges of staged homicide cases, enabling a thorough examination that can reveal even the most meticulously concealed evidence (Benecke).

## Findings

**This forensic investigation into the staged crime scene reveals several critical indicators distinguishing homicide from suicide. Key findings include:**

- 1. Irregular Ligature Marks:** The non-oblique ligature mark on the victim's neck contradicts typical suicide characteristics, which often feature an upward-slanting, consistent ligature pattern. This suggests that the ligature may have been applied after death or under circumstances inconsistent with hanging (DiMaio and DiMaio).
- 2. Head Trauma and Inability to Self-Hang:** The victim sustained severe cranial trauma, evidenced by fractures in the parietal and temporal skull regions. This significant injury likely would have incapacitated the victim, making self-suspension impossible. This finding aligns with homicide rather than suicide, as an incapacitated individual would not be able to initiate hanging (Geberth).
- 3. Signs of Struggle and Disturbed Scene:** Physical evidence near the crime scene, including fractured bangles, scattered slippers, blood stains, and drag marks, indicates a struggle likely involving an assault. These findings suggest that the victim initially resisted an attacker before being relocated to the tree to simulate a suicide (Byard).
- 4. Presence of Sexual Assault Indicators:** The condom packet found near the scene, alongside scattered items, implies a possible sexual assault attempt. However, the clean condition of the victim's private areas suggests that while there was an intent to deceive, no assault evidence was left on the victim, indicating a partial staging (Hiss and Freund).
- 5. Postmortem findings confirm that the cause of death was consistent with homicide rather than a self-inflicted injury.**

## Conclusion

The investigation provides a comprehensive view of how forensic methods can discern between homicide and staged suicide. The irregular ligature marks, significant cranial trauma, signs of a struggle, and intentional scene manipulation all suggest that this was a homicide staged to resemble suicide. The findings underscore the importance of meticulous crime scene analysis, where forensic pathology, criminology, and behavioral evidence analysis intersect to identify subtle but telling inconsistencies. These details

reveal the underlying truth behind the staged crime, demonstrating that forensic science is crucial in uncovering and addressing the complexities of manipulated crime scenes (Benecke; Turkey).

Ultimately, this study emphasizes the need for an interdisciplinary forensic approach to detect deceptive practices in crime scene staging. Advances in forensic tools and methodologies play an essential role in resolving ambiguities in challenging cases, allowing investigators to deliver accurate conclusions and support the pursuit of justice.

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