



Case Report

The Clean Cut and the Cleaner Scene: A Forensic Puzzle of Chest Stabbing, Alcohol Influence and a Healed Scar

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Abstract:

Background: Self-stabbing is an uncommon form of suicide, contributing to a very small percentage of self-inflicted deaths worldwide. It presents significant diagnostic challenges for forensic pathologists, who must differentiate it from homicide, especially in the absence of hesitation cuts or when the crime scene is disturbed. Alcohol intoxication, psychiatric illness, and past self-harm behaviours play a pivotal role in understanding the intent.¹⁻³

Case Report: We report a case of a 25-year-old male who was brought for post-mortem examination following two penetrating stab wounds to the chest. The body was discovered in a rented room, which was reportedly cleaned by his roommates prior to police arrival, raising initial suspicion of foul play. Autopsy revealed a fatal perforating stab wound of the left ventricle with hemopericardium and haemothorax, with approximately 250 ml of frank blood and a 150 g ante-mortem clot in the pericardial sac. A healed 6×1 cm scar was identified on the forearm, suggestive of previous self-harm. chemical analysis revealed a blood alcohol concentration of 222 mg/dl.⁴⁻⁶

Conclusion: Despite the ambiguity introduced by the cleaned scene and the nature of the wounds, integration of forensic pathology, chemical analysis, and background psychiatric history confirmed the manner of death as suicide. This case illustrates the critical importance of multidisciplinary evaluation in complex medico-legal death investigations.⁷⁻⁹

Keywords: Self-stabbing; Forensic pathology; Alcohol intoxication; Chest stab wound; Chemical analysis.

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Introduction:

Suicidal deaths by stabbing are relatively rare compared to other methods such as hanging, poisoning, or drowning. Studies suggest that self-stabbing accounts for less than 3% of all suicides.¹ The chest, particularly the precordial region, is an

unusual target, but when chosen, the lethality is high owing to the potential for direct cardiac injury.²⁻³ Forensic pathologists often face the complex task of differentiating self-inflicted wounds from homicidal stabs. Key indicators such as hesitation marks, accessibility of the wound site, direction and depth of the wound track, and the presence or absence of defensive injuries all play significant roles.⁴⁻⁶

The challenge deepens when confounding factors such as alcohol intoxication, psychiatric illness, or manipulation of the death scene are present. Alcohol is known to lower inhibition, impair judgment, and facilitate impulsive

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self-harm acts.⁷ Psychiatric illnesses, particularly depression and substance use disorders, significantly increase the risk of violent suicides.⁸ The forensic community has emphasized that establishing the manner of death requires a multidisciplinary approach, combining scene findings, autopsy data, chemical analysis, and psychosocial history.⁹

This report discusses an unusual case of suicidal stabbing under the influence of alcohol, further complicated by a sanitized crime scene, demonstrating the need for cautious, evidence-based interpretation.

Case History:

The deceased was a 25-year-old moderately built male measuring 170 cm in height and weighing 58 kg. He was brought for post-mortem examination to the mortuary of JSS Medical College. According to police reports, the victim was found unconscious in his rented room on 19/02/2025 at approximately 9:00 PM. He was reported to have sustained chest injuries and was rushed by his roommates to two private hospitals, where he was denied admission, and at the third private hospital he was declared brought dead.⁹

A critical complication in the investigation arose because the roommates reportedly cleaned the scene prior to the arrival of law enforcement agency. This act, though possibly intended to assist, introduced suspicion of staging or tampering with evidence.⁹ A formal complaint lodged by his employer, a tiles contractor, mentioned the deceased's habitual heavy alcohol consumption and recent psychosocial stressors. The employer suggested that the deceased may have acted under the influence of alcohol in a suicidal manner. Relatives later confirmed a psychiatric history with prior self-harm attempts, consistent with the presence of a healed scar observed during the autopsy.

Postmortem Examination Findings

The post-mortem examination was conducted on 21/02/2025 between 12:00 Noon and 01:00 PM at the Department of Forensic Medicine, JSS Medical College. The body was cold and stiff, with rigor mortis fully established and fixed post-mortem lividity on the back.⁹

Two principal external injuries were identified on the chest:

1. A spindle-shaped penetrating stab wound, vertically oriented, measuring 1.5×0.5 cm over the right 3rd intercostal space, 6 cm below the clavicle. (figure 1)
2. A vertically oriented stab wound measuring 3×1.5 cm over the left 4th–5th intercostal space, 7 cm below the clavicle.⁹ (figure 2)



Figure 1: spindle shaped penetrating stab wound vertically oriented present over the right 3rd intercostal space.



Figure 2: Vertically oriented stab wound present over the left 4th–5th intercostal space.

Both wounds were clean-cut with regular, inverted margins, minimal gaping, and

directed obliquely downward and outward. There were no other external injuries, no defence wounds and no hesitation marks. A significant healed linear scar (6 × 1 cm) was noted on the front of left forearm, consistent with past self-harm.⁹ (figure 3)

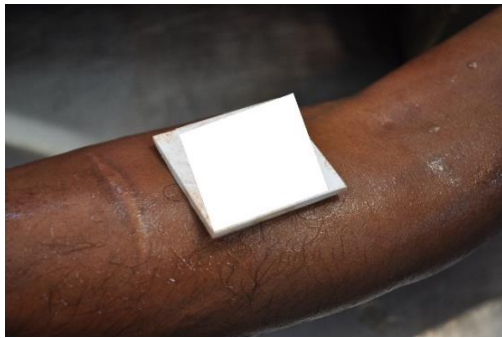


Figure 3: Healed linear scar noted on the front of left forearm



Figure 4: Passive probing of perforating stab wound in the left ventricle, extending from anterior to posterior wall.

On internal examination, approximately 250 mL of blood was found in the pleural cavity with collapsed, pale lungs. A perforating stab wound was present in the left ventricle, extending from anterior to posterior wall (figure 4), with about 150 g of antemortem clot in the pericardial sac.⁹ The stomach contained rice particles, and the liver and spleen were unremarkable. An incidental finding of a single kidney was noted. The final opinion attributed death to hypovolemic shock following penetrating cardiac injury.⁹

Chemical analysis report from Regional Forensic Science Laboratory(RFSL):

Viscera and blood samples were forwarded to the Regional Forensic Science Laboratory (RFSL), Mysuru. The toxicology report confirmed a blood alcohol concentration (BAC) of 222.54 mg/dl.¹⁰ No other poisons were detected. This level of alcohol is categorized as severe intoxication, impairing psychomotor skills, reducing pain perception, and significantly increasing the likelihood of impulsive and violent suicidal behavior.⁷

Discussion:

The differentiation of suicidal versus homicidal sharp force trauma is a recurring challenge in forensic practice.¹⁻⁴ In this case, several features initially raised suspicion of homicide: the absence of hesitation cuts, the presence of two penetrating wounds, and the reported cleaning of the scene by roommates. Scene manipulation often creates investigative bias, but it is well recognized that bystanders or relatives may alter scenes without criminal intent.

Despite these ambiguities, the autopsy findings strongly supported self-infliction. The wounds were located on an accessible area of the chest, showed regular margins without defensive injuries, and were consistent in direction and morphology.^{5,6} Previous studies have shown that self-stabbing victims often choose the precordial region, and in cases of suicide, multiple wounds are possible, though usually concentrated in the same anatomical region.^{8,9} The absence of hesitation cuts, while classically described in suicides, is not universal and is often absent in individuals under severe alcohol intoxication.¹¹

The role of alcohol was critical in this case. A Blood alcohol concentration of >200 mg/dl is known to cause impaired judgment, disinhibition, and increased impulsivity, factors strongly linked to suicidal acts.⁷ Kalant demonstrated that

alcohol lowers the threshold for violent methods of suicide, including stabbing.¹¹ Psychiatric history and the presence of an old self-inflicted scar further contextualized the behaviour, making suicide the most consistent explanation.

Comparative literature supports these findings. Almadani et al. (2022) reported a case of suicide by chest stabbing under psychiatric distress, while Bhatta et al. (2015) described a Nepalese case with similar features, reinforcing the rarity yet possibility of such suicides.^{6,7} Karger's study of trunk stabbings concluded that wound characteristics and psychosocial background must be integrated for accurate conclusions.⁸

Thus, holistic interpretation, combining forensic pathology, chemical analysis, and psychosocial data, is paramount. This case underlines the dangers of relying solely on scene impressions when medico-legal investigations are complicated by external interferences.

Voluntary consent for publication was obtained from the next of kin of the deceased after full disclosure of the report's intent.

Conclusion:

This case underscores the medico-legal complexities in differentiating between suicide and homicide in sharp force trauma, particularly when confounded by alcohol intoxication and a compromised crime scene. The ultimate resolution lay in correlating scene findings, psychiatric history, autopsy evidence, and toxicological data. Forensic practitioners must remain cautious about scene contamination but prioritize objective medical and scientific evidence. This case highlights the importance of multidisciplinary approaches in ensuring justice and accurate certification of death.

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