



A CASE OF UNUSUAL HANGING: A CASE REPORT

Forensic Medicine

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ABSTRACT

Asphyxia occurs when respiration is disrupted or when there is a deficiency of oxygen in the air being breathed, leading to the deprivation of oxygen in organs and tissues. Mechanical asphyxia refers to a situation where sufficient external pressure is applied to the neck, chest, or other body areas, or when the body is positioned in a manner that makes breathing difficult or impossible. In cases of violent asphyxial deaths, the respiratory process—specifically the exchange of air between the atmosphere and the lung—is obstructed by some form of forceful mechanical action. Hanging involves suspending the body with a ligature around the neck, which constricts the airway and prevents air exchange between the atmosphere and the alveoli in the lungs, ultimately resulting in asphyxia and death. The constrictive force can arise from the weight of the entire body or just the weight of the head. In India, hanging ranks among the top five preferred methods of suicide, alongside poisoning, drowning, burning, and jumping from heights or in front of trains. The primary aim of this study was to investigate the incidence, trends, and patterns of hanging in Chhattisgarh.

KEYWORDS

Asphyxia, Oxygen, Atmosphere, Hanging

INTRODUCTION

Hanging is a type of ligature strangulation characterized by the constriction of the neck structures due to the gravitational pull of part or all of the body's weight. Most hanging deaths are classified as suicides and are the most common method of suicide in many countries. Although rates of hanging among young men have decreased, making it a frequent cause of death encountered by autopsy pathologists. A misunderstanding of the necessity for invasive examinations in hanging victims can lead to a failure to appreciate the importance of thoroughly examining, documenting, and dissecting neck injuries in such cases. Most suicidal hangings involve self-suspension, where one end of the ligature is attached to a suspension point and the other forms a slipknot or fixed loop around the victim's neck. Common ligature materials include rope, wire, belts, towels, sheets, handkerchiefs, and scarves. Typically, the suspension point is located centrally over the occiput or at the sides of the neck, though it can occasionally be at or above the chin. High suspension points often lead to complete hanging, with the body fully suspended and the feet off the ground. However, partial hanging can occur when the victim's feet or knees touch the ground, either due to stretching of the ligature or if the victim leans into it. Instances have been reported of prisoners using sheets tied to lower rails in their cells while sitting or kneeling, and cases have also been noted where victims hung themselves from a bedpost while lying down. In partial suspension cases, the weight of the upper body and head can still result in fatal neck compression. The type of suspension point, ligature, and noose all influence the hanging mark and may affect the development of internal injuries. For many years, respiratory asphyxia was thought to be the primary mechanism of death in hanging cases. However, several authors argue that airway occlusion—either from direct compression of the larynx or trachea, or from the upward displacement of the tongue causing pharyngeal closure—is not the main cause of death. Individuals have successfully hanged themselves even with a tracheostomy opening below the noose. Additionally, the pressure required to compress the trachea is significantly higher than that needed for other vital neck structures. Various hypotheses have been proposed to explain fatal outcomes in cases of accidental and suicidal neck compression, including pressure on the carotid sinus leading to reflex cardiac arrest, compression of the carotid arteries causing cerebral ischemia, and occlusion of the jugular veins. These mechanisms may operate independently or in combination. However, the relative significance of these mechanisms in causing death, as well as their association with specific hanging features (such as the onset of unconsciousness, type of suspension, and autopsy findings), remains a topic of debate.

CASE HISTORY

- A 40 year old man hanged himself when there was nobody at home and locked the door from inside,
- All lights and airconditioner was ON.
- He hanged there dead for 2 days as not opening the door of his room was not taken seriously as he had locked him up many times in the past.
- The gate was broken after 2 days until which the body has putrified due to hot humid climate of Delhi However working air-conditioner kept foul smell in check due to which family members only became suspicious after 2 days. As seen in Fig. 1

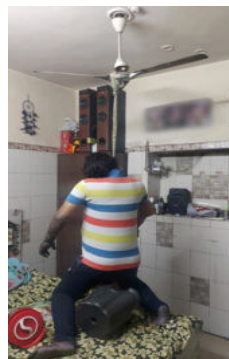


Figure 1



Figure 2

AUTOPSY FINDINGS

-Autopsy findings were consistent with hanging with most of the visceral organs congested. The body was putrified with skin peeling off and generalized swelling in just 2 days due to hot and humid climate of Delhi. As can be seen in Fig. 2.



CAUSE OF DEATH

- Asphyxia due to antemortem hanging by ligature.
- Ligature material was Dupatta. As seen in Fig.3

DISCUSSION

Hypoxic ischemic encephalopathy is a significant complication for patients who survive a hanging attempt. Hypoxic brain injury, or global cerebral ischemia, occurs due to a reduction in cerebral blood flow throughout the brain. During hanging, pressure on the carotid arteries decreases the oxygen supply to the brain, which can be severe enough to damage brain cells. This hypoxia eventually results in encephalopathy. The necrosis of brain cells triggers inflammatory responses, leading to swelling and edema. Brain edema, combined with postural lung congestion and infection, can result in respiratory failure.

CONCLUSIONS

The fatal period in hanging typically ranges from 5 to 10 minutes. In many cases, delays in removing the ligature result in irreversible cerebral or neuronal damage, leading to coma and delayed death due to various complications. However, if the ligature is removed within the critical first few minutes, there is a chance that the individual may regain consciousness and survive.

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