

Case Report

# Psychological Autopsy- Unraveling the Mystery of Death

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## Introduction

Factors and stressful life situations are always associated with suicidal hanging. Age group of 21-30 years, married females, unmarried males, dowry related stress, unemployment, prolonged illness, failure in examinations, relationship and financial problems were associated more frequently with suicidal hanging [1]. The fact that 71% of suicides in India are by persons below the age of 44 years imposes a huge social, emotional and economic burden on our society [2]. Differentiation between homicide and suicide may be a difficult task without a thorough death investigation. In addition to a complete medico legal autopsy, a detailed investigation of the scene, examination of the ligatures, performing psychological autopsies to know the personal history of the deceased are the key factors to make decision about the manner of the death [3-5]. Generally in any suicidal hanging it is observed that either one or two loops were found encircling the neck with its oblique pattern. Here we present a rare case documented in forensic literature, where the deceased was determined to die, by encircling multiple ligature turns around his neck, where he doesn't get a minimal chance to escape from his death. The type of mental pressure which he had undergone before this act was revealed by this parents after undergoing psychological autopsy.

## Case Presentation

A 29 years old medical graduate was found in a hotel room hanging from the metallic hook with multiple ligature turns around his neck. Initially the investigating officer established a doubt of homicide by seeing the number of loops around his neck. Forensic surgeon was summoned to the crime scene on the same day by the Investigating officer.

At the crime scene: The body of an adult male, well built was found suspended partially with multiple ligature turns around his

## Abstract

Hanging is one of the 10 leading causes of death in the world accounting more than a million deaths annually. Differentiation between homicide and suicide may be a difficult task without a thorough death investigation. One tool often employed in the investigation of an equivocal death is called a psychological autopsy combined with crime scene investigation, postmortem examination and ancillary investigations. In Psychological autopsy a series of questions in an interview format, collateral information is gathered from people who knew the deceased. Here we present a rare case of a 29 years old medical graduate who was found in a hotel room hanging from the metallic hook with multiple ligature turns around his neck. Initially the investigating officer established a doubt of homicide by seeing the number of loops around his neck. It is only after postmortem examination and the psychological autopsy of the deceased relatives, the manner was finally concluded as suicidal in nature.

**Keywords:** Autopsy; Psychological autopsy; Hanging; Multiple loops

neck with running knot tied over the right side of the neck just above the right angle of the mandible. The other end of the ligature material was tied to the railing. The body was in a partially sitting posture with knees extended over the cot. A plastic chair was fallen over the cot just to the side of the body. The tongue was protruded, bitten and discolored. The finger tips showed bluish discoloration. Body was cold and stiff all over on flexion of extremities. Postmortem lividity over both upper limbs and lower limbs were fixed. No evidence of struggle marks over the body. No evidence of suicidal note in the crime scene.

A medico legal autopsy was performed. The deceased was 65kgs in weight and measuring 160cm in length. Evidence of dried salivary dribbling stains from the left corner of the mouth. A ligature material, yellow colour thick nylon rope was found encircling the neck with five turns and a running knot present on the right side of neck. The outermost loop around the neck measured 34 cms in circumference and the inner most loop measured 27cm in circumference. The ligature material was preserved and handed over to Investigating officer Figure 1.

A board ligature mark measuring 30cm in length and 4.5cm in width (patterned pressure abrasion of thick yellow nylon rope) with multiple turns found completely encircling the neck, at and above the level of thyroid cartilage, 4cm below the chin and 6cm vertically above the suprasternal notch. The ligature mark was dark brownish in colour, parchmented, deeply grooved and exhibited rope burns (blisters), where the skin is pinched between the multiple turns of the ligature material. The right limb of the ligature mark runs upwards and backwards along the angle of the mandible, 5.5cm below the right mastoid process and proceeds backwards completely encircling the nape of the neck. The left limb of the ligature mark runs upwards and backwards along the angle of the mandible, 4.5cm below the left



**Figure 1:** Crime scene- The deceased with multiple ligature loops.

mastoid process and proceeds backwards to meet the right limb at the nape of the neck. A pressure abrasion with indentation, brownish black in colour, 2x1cm present over the right side of the neck, 3cm below and lateral to the chin Figure 2.

Neck tissues beneath the ligature mark were dry, white and glistening. Strap muscles, Hyoid bone and thyroid cartilage were intact and unremarkable on blood less dissection of the neck. Based on autopsy findings and circumstantial evidence it was concluded that the deceased died due to asphyxia secondary to constriction of neck structures due to hanging.

Later his mobile contacts were traced out, and his father was called to the morgue by the investigating officer for further investigations. The deceased father and close relatives were enquired and later the information was revealed that the deceased was a first year medical graduate pursuing his studies in North Kerala, and was depressed in his life due heavy academic pressure and the inferiority complex which has present in him due to repeated failures in the first year of this medical curriculum. He was never on any psychiatric medications, but used to mention all his feelings in his diary which was recovered from his residence. A suicidal note was also written about the academic pressure which he could not sustain, which made him to take this extreme step. Based on all the circumstantial evidence, psychological autopsy from the deceased relatives and postmortem examination it was concluded that the manner was suicidal in nature.

## Discussion

Suicide is a major socioeconomic and public health issue worldwide. Hanging is one of the 10 leading causes of death in the world accounting more than a million deaths annually [6,7]. In India, hanging is second common method of committing suicide after poisoning. Over the past 30 years the incidence of suicide by hanging is on increase, especially among young adults [8]. Death investigations by forensic surgeons are medicolegal in nature and are constructed for the sole purpose of determining the cause and manner of death to certain extent. Deciding whether the death should be classified as



**Figure 2:** Broad patterned pressure abrasion with evidence of rope burns and fibers of the ligature material.

natural, accident, suicide or a homicide is of primary importance. One tool often employed in the investigation of an equivocal death is called a psychological autopsy.

Using a series of questions in an interview format, collateral information is gathered from people who knew the deceased. Psychological autopsies attempt to gather sufficient information to reconstruct the event, understand the decedant's cognitive functioning, psychological well being, state of physical health, spiritual beliefs and social connectedness. The psychological autopsy is first and foremost an investigative tool and can also function as a first step in the healing process for the survivors, especially when conducted with understanding and empathy.

In the above case, though the multiple loops around the neck and the circumstantial evidence observed by the investigating officer initially compelled him to conclude the manner to be homicidal, only after postmortem examination and the psychological autopsy of the deceased relatives, the manner was finally concluded as suicidal in nature.

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