Case Report

Hanging or strangling? - A case report of suicidal hanging without knot at the neck

Sobhan K. Das* & Saurabh Chattopadhyay**

Abstract
Strangling is generally homicidal, hanging commonly suicidal. Some kind of knot is generally present in the noose at or near the neck in almost all cases of hanging particularly suicidal hanging. If any case with history of hanging is found without any knot at the neck strongly arouse suspicion of strangling and therefore ruling out probability of strangling is essential. Here we report a rare case of suicidal hanging in an 80 yrs Bengali male where multiple turn of cotton rope around the neck was used as ligature but no knot could be detected at the neck.

Key words: Suicidal hanging, multiple turn, absent knot & strangling.

Introduction
In rural Bengal hanging is the most preferred method of ending the self life only next to poisoning. Strangulation is the most common form of suffocation in which expert opinion is requested in forensic medicine practice. Strangulation causing suffocation is of three types under the generic term “strangulation” - 1) Hanging 2) strangling 3) throttling.

Hanging is strangulation by means of a ligature where the neck is compressed passively by the individual’s partial or entire own weight which becomes suspended from the ligature.

Strangling refers to neck compression where the instrument/ligature used is not tightened passively by the weight of the body but actively by outside force.

Hanging is a form of violent death almost invariably associated with either deliberate or accidental self suspension whereas strangling is commonly homicidal rarely suicidal may be accidental.

Presence of some form of knot in the noose for hanging is almost a constant finding and hanging is classified typical and atypical according to position of knot at the neck.
Commonly single turn and less likely more than 2-3 turns around neck is found in cases of hanging.

In strangling cases knot may not be present. Single or multiple turns of ligature material around neck without knot generally indicative of strangling. In strangling cases single or multiple complex type knot are suggestive of homicide unless very strong circumstantial evidence proved the contrary manner.

In medicolegal practice it is often required in cases of death from strangulation to establish whether it is hanging or strangling.

Authors describe this present case of strangulation death with multiple turns of cotton rope ligature around the neck without any knot at the neck in the noose.

Case History
Inquest
A fair complexioned 80 yrs old male subject, a childless widower, was suffering for long time from chronic painful diseases, living alone in his house. In the morning found hanging from a ceiling fan and the door was not locked. A hand written suicidal note supposedly by the deceased was recovered from the adjacent other room where he mentioned that he was a childless and widower living alone and suffering from painful ailments for long time therefore ending the painful lonely life. History of previous failed attempt of suicidal hanging due to breaking down of weakligature material.

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* Corresponding author - Associate Professor & Head,
  email: drsobhankdas@yahoo.com.

**Assistant Professor, Department of Forensic and State Medicine, B.S. Medical College, Bankura, West Bengal.
Post mortem examination

External Findings

Nine turns of ligature of thick new cotton rope wound around the neck with two ends dangling loosely by the sides of the body without any knot at or near the neck (Figure-1). Rigor mortis-present all over the body. Eyes clear, face swollen, tongue tip protruded between almost closed teeth line. Tongue, lips, fingernail beds bluish. Dried up stain of nasal secretion vertically downwards on the upper lip from nostril (Figure-2), petechial hemorrhage in the dependant parts of forearm and legs.

In the neck multiple ligature compression marks, two of them completely encircling the neck, lowermost one almost horizontal, circular, deep and another uppermost one obliquely round the neck. Other ligature compression abrasion marks are incomplete, indistinct, crisscrossing and overlapping at places on each other. On anterior neck there is excoriation of superficial skin due to friction abrasion with evidence of ecchymosis in and adjoining small area of excoriation. Two ligature abrasion mark is almost vertically upwards from behind the angles of mandible to the parietal eminence area of scalp on either side of neck and head (Figure-3). On both side the mark is prominent behind the angles of mandible and showing evidence of friction abrasion on the skin over angles.

Internal Findings

Undersurface of ligature marks condensed, whitened and parchmentised particularly under the prominent ligature compression marks but there is no sign of extravasations of blood in the subcutaneous tissue or strap neck muscle. Hyoid bone and thyroid cartilage healthy. Muscles and all abdominal viscerae congested. Lungs voluminous congested. Brain pale, edematous, clear. Collection of 40 ml of serous fluid in subdural space. Liver showing granular cirrhosis and multiple medium sized gallstones in the gallbladder. Stomach- healthy, contains 120 gram partly digested food material without characteristic smell of any known poison.

Discussion

Multiple turns of ligature around neck without any knot at or near the neck, found in a room with door not locked in a case of one old aged person living alone - raises a suspicion on the cause and manner of death whether it is a case of strangling or hanging?--suicidal, accidental or homicidal?

In strangling cases more than 2-3 turns unusual and generally complex type knot is found tightly at and behind the neck where ligature compression marks are lowdown, horizontally circular except in very rare cases of lifting garroting when two ligature ends may be obliquely upwards but then multiple turns most unusual.

Knight reports a strangling case with multiple turns of ligature with a fixed knot at the back of the neck tightly on skin and opined that a case of strangulation by ligature , suicidal in manner which was proved by circumstantial evidences.

In Taylor’s book a case is mentioned where as many as 18 (eighteen) turns of ligature was found without knot or other tie at the neck in a case of 72 yrs woman and that proved to be a case of strangling where probability of homicide was ruled out in favor of suicide from strong circumstantial evidences.

Hanging with multiple turns of ligature is not uncommon but in all these cases there were some form of knot present may be varying in position, number or in type. In accidental hanging in cases of playacting, sexual asphyxia [masochistic] type accident, there is probability of multiple turns of ligature but knot is commonly present whereas in all other type of accidental hanging noose with knot in the neck quite unusual. Homicidal hanging is rare and very unusual without causing any other injury on the body or drugging the person even in this old aged person but there also some type of knot at or near neck is very unlikely to be absent.

Virendra kumar reported a case where a 35 yrs. Chinese man committed suicide by hanging with a ligature material made by electric wire but there was no knot present on the noose.
In any type of hanging ligature compression marks are generally oblique, non continuous, placed high up in the neck except rarely in cases of partial hanging when ligature mark may be horizontal, low down, almost completely encircling the neck particularly when body is almost horizontal with only head is above the ground and ligature is tightly compressed on the neck.

In any type of strangulation many turns of ligature round the neck is very much suggestive of deliberate self application therefore indicative of suicidal manner.

In this case on completion of P.M examination on further query police revealed that the subject was found completely hanging from a ceiling fan where both free ends of the rope from the neck tied to the rod of the ceiling fan by many turns almost made into a heap on the rod. A chair on the cot just under the fan was noted at the scene of incident. The hand written suicidal note was indeed written by the deceased though not known on exactly what date and time. There was no history of animosity with the neighbors neither with his immediate kith and kin who have been living away in Kolkata but were caring and concerned.

Multiple stones in gallbladder corroborate the history of suffering from chronic painful diseases.

Deep grooving of ligature mark behind the angles of mandible and friction abrasion on the skin at angles indicative that ligature were locked behind the angles of mandible thereby prevented unwinding of ligature from neck. In this case, unexpected finding of paleness of brain when muscles and all other viscerae congested, could be explained by the drainage of blood from head and brain to the dependant part through vertebral venous plexus due to prolong hanging where ligature compressions were not so tight3.

The way deceased secured both free ends of thick new cotton rope to the rod of ceiling fan but forgetting to apply any knot at the neck is very much suggestive of his determination of ending own life without fail this time and that leads to severe anxiety and mental confusion at the time of preparation of commission most likely a sequel of his last experience of failed attempt due to breakdown of weak rope.

Conclusion

Autopsy findings and available circumstantial evidences positively and strongly suggestive that “Death was due to the effects of hanging, suicidal in manner”. and rules out the possibility of strangling- homicidal or suicidal.

In cases of any type of strangulation by ligature circumstantial evidences play a very important role in deciding a case whether it is strangling or hanging and also whether the manner of death is suicidal, homicidal or accidental.

References


Figure-1: Multiple turns of rope but no knot.
Figure-2: Vertically downwards dried mark of nasal secretion

Figure-3: Vertical ligature marks on scalp.