



A RARE CASE OF HANGING WITH A LOOP OF SHAWL AND PARTIAL SUSPENSION OF THE BODY – AN AUTOPSY CASE REPORT

Forensic Medicine

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ABSTRACT

The author reports a rare case of hanging where a 15-year-old boy was found partially suspended with a loop of chiffon shawl around his neck anchored to a hook in the ceiling. His feet were touching the sofa and the knees were bent. There are only few reported cases of suicide by hanging with a loop around the neck. This is yet another good example to prove that a knotted noose around the neck is not necessary to cause death in case of hanging.

KEYWORDS

Atypical hanging, hanging without a knot, autopsy findings in hanging, partial suspension in hanging

Introduction

Hanging is defined as complete or partial suspension of the body by a ligature tied around the neck and the force of constriction on the neck being generated by the total or partial weight of the body hanged.¹⁻⁵ Death in hanging may result from asphyxia, cerebral anoxia or vagal inhibition or combination of these entities. In case of judicial hanging death is often caused by fracture dislocation of the C2/C3/C4 vertebrae.^{2,6} Pressure on the neck causes occlusion of air passages and blood vessels which ultimately lead to cerebral anoxia and death. Position of the knot around the neck is often used to classify hanging as typical or atypical hangings. If the knot is present at the nape over the posterior aspect of the neck then the hanging is classified as typical hanging and rest all other position of the knot around the neck are classified as atypical hanging.^{1-3,6}

Case report

A fifteen-year-old boy, living with his mother, was found hanging with a loop of orange color chiffon shawl around his neck against a hook from the ceiling as seen in figure 1. A sofa was lying beneath his feet and the knees were bent. A bamboo stool was also found on the sofa by the side of his feet. The room was locked from inside and the scene was undisturbed. Investigation by the police revealed that the deceased had some family problems. On external examination, the body was in the state of early decomposition. His pants and shirt were partially soaked in brownish decomposing fluid. The tongue was protruded out, the skin was dark brownish in color and multiple blisters were present over different areas of the body. An orange colored chiffon shawl was present looped around the anterior aspect of the neck as seen in figure 2. It was present above the thyroid prominence going from one mastoid region to another mastoid region. The shawl had fixed knot present at the anterior aspect of the neck with no other knots on the entire loop of the shawl as seen in figure 2. Decomposing fluid was dribbling from nose, mouth, eyes and anus.

On external examination of the neck, a brownish parchmented ligature mark of 2-3 cm wide was present beneath the ligature (orange chiffon shawl). It was directed from one mastoid region to another mastoid region along the anterior aspect of the neck. There was no other fresh external injury on the body.

On internal examination of the body, neck dissection revealed no soft tissue injury. The thyroid cartilage, hyoid bone and cricoid cartilage were free from fracture. Carotid arteries were free from tears. The lungs were congested and brownish frothy fluid was present in the air passages. Other internal findings were unremarkable and toxicological analysis was negative for drugs and poisons.

Discussion

Generally, it is believed, that a knotted noose is required to be present for constriction of the neck to cause death in hanging. But in the present case no knotted noose was present, simply a looped noose (orange Chiffon shawl) was present, just beneath the mandible causing pressure only over the antero-lateral aspect of the neck.

Death in hanging occurs due to constriction of the neck by a ligature

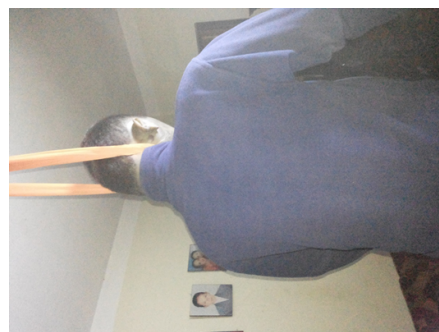
leading to asphyxia or cerebral anoxia or vagal inhibition leading to cardiac arrest or spinal cord injury in case of judicial hanging.^{2,4,6} It has been proven that pressure force of 2 kg (4.4 lbs.) can occlude jugular veins, 4-5 kg (8.8-11 lbs.) can occlude carotid arteries, 15 kg (33 lbs.) can occlude trachea and 30 kg can occlude vertebral arteries.^{3,4,6,7} All these forces come into play simultaneously if the neck is sufficiently encircled by the ligature and the body is completely suspended. But the present case is one of the few cases to prove that all the forces mentioned above are not necessarily required to cause death. In fact, even a force as little as 2 to 5 kg, generated from the partial weight of the body or tilting of head to one side in partial suspension can occlude the jugular vessels or carotid arteries leading to death. Spitz and Fisher mentioned that death by hanging usually results from arrest of the arterial blood flow to the brain or obstruction of the venous return, or both.⁸ Polson mentioned that an adult man was found suspended by a cord attached to the rafters of a granary or loft, where he had passed his cotton scarf over the cord and tied the ends under his chin and only front part of the neck was alone engaged. His toes were found rested on the heap of corn and the knees were flexed.⁴ Kumar reports a 35 year old Chinese man committed suicide by hanging with a ligature material made of electric wire where there was no knot present on the noose.⁹ Similarly, Nithin and Rani reported a 35-year-old woman committed suicide by hanging, where the ligature employed was not a typical knotted noose but instead an open iron chain anchored to the ceiling above.¹⁰ These examples suggest that mere presence of obstruction of carotid vessels or jugular vessels or both might be sufficient to cause death in case of hanging.

In the present case also, a mere loop of shawl going around the angles of mandible at the anterior aspect of the neck has obstructed the inflow or outflow or both blood vessels leading to anoxia of brain and death. In conclusion, a complete noose with a knot is not necessarily required to cause death in hanging.

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