

Case Report

An Unusual Case of Accidental Hanging by Cloth (Shawl) Entangled in the Rolling Shaft of a Crane

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Abstract

Accidental hanging although a rare entity, but occasionally reported in literature. It is very difficult to differentiate in suicidal and accidental hanging. Circumstantial evidence alone can sufficiently indicate the accidental nature of occurrence. In the present case a 25 year old male was accidentally hanged when the shawl wrapped around his neck got entangled in rolling shaft of crane. Initially, he was completely hanged for some time and then fell on iron rods and bars placed on the ground. He was immediately shifted in an unconscious condition to Govt. Medical College Nagpur but was declared brought dead. The Autopsy performed subsequently revealed ligature mark around neck with multiple injuries on lower limb, un-displaced fracture of thoracic ribs and of thoraco-lumbar vertebrae. This case reports a rare case of accidental hanging in an adult male, which would have been mistaken to be homicidal considering the other injuries present on the body.

Key Words: Adult male, Shawl, Accidental hanging, Asphyxia

Introduction:

It is a great challenge before the autopsy surgeon to decide the manner of death, whether it is suicidal, homicidal or accidental, especially in those cases where the body of deceased has associated injuries which are sufficient in the ordinary course of nature to cause death in addition to the main cause of death. Moreover, such injuries may arouse the suspicion regarding the manner of death.

Hanging represents one of the most common causes of suicide in our country. As per NCRB data of 2013, the most preferred method adopted to commit suicide is hanging and it contributes to 39.8% deaths. [1]

Hanging is almost always suicidal unless it is disproved [3], but a few cases of accidental hanging are also on record. Accidental hanging is rare in all age groups but it is even rarer in adults except in case of autoerotism [2], intoxication and person under the influence of drugs. In autoerotism the death is not expected by person but trying to constrict the neck to produce partial asphyxiation.

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DOR: 04.02.2015 DOA: 09.05.2015

DOI: 10.5958/0974-0848.2015.00084.6

Children are usual victims because they hang accidentally while playing, in crib or cot or young children may try to copy the scenes that they have seen in movies or on television.

Case History:

A corpse of a 25-year-old male was brought for an autopsy to the Department of Forensic Medicine at the Government Medical College and Hospital, Nagpur with an alleged history of hanging under suspicious circumstances, while working at the plant site in a company.

As per his co-workers, deceased had come for his routine night shift on the day of the incident i.e. 14/1/14, around 8 pm at the construction site. As he climbed the stairs of the crane and was walking on the rolling area of its platform, the shawl wrapped around his neck suddenly got entangled in the rotating shaft of the crane and he was pulled up and hanged for some time, subsequently falling on the iron rods and bars on other side of rolling shaft.

The co-workers rushed to help him, but by that time he had lost consciousness. They removed the neck cloth by cutting it into two parts and took him to Govt. medical college and hospital Nagpur, where he was declared brought dead by CMO in casualty on 14/01/14, 10:45 pm. The body was shifted to forensic medicine dept. for medico legal autopsy.

Autopsy Findings:

At autopsy, the clothes were soiled with mud but intact. External examination revealed fixed postmortem lividity confined to the back.

The face was congested, the nails cyanosed with brownish blood tinged fluid oozing from nostrils and the left angle of the mouth. External genitalia were intact with no obvious injuries or purging. Multiple external and internal injuries were found over the body.

A ligature mark present over neck in the form of a reddish brown pressure abrasion running on both sides of neck obliquely placed, encircling the neck on posterior aspect and both right and left side of neck, right limb of ligature mark terminating over the right side of neck at mid-clavicular region directed downwards, and left limb ends over undersurface of mandible at sub-mental surface, present over midway of the thyroid cartilage, the underlying area appearing dry, hard and parchmented.

The ligature mark had a maximum breadth of 4cm throughout and a circumference of 36 cm. deficient for 5cm on right side of neck. The point of suspension is supposed to be present over right anterolateral aspect of neck.

Other External Injuries:

- A lacerated wound present over upper 1/3 of left leg 5cm below knee joint of size 5cm x 3cm x bone deep, compound fractures of tibia and fibula.
- A bluish coloured contusion over anterior aspect of middle 1/3 of right thigh 15 x 8cm and displaced fracture of underlying shaft of femur.
- Reddish brown abrasion over the right gluteal region 5 x 4cm.
- Three small reddish brown abrasions over right shin of tibia in the upper 2/3 region 2 x 2 cm each.
- Reddish brown abrasion over middle 1/3 of left leg 11 cm below knee 4 x 4 cm.

Internal Examination:

Un-displaced fracture of 2nd, 5th, 6th and 7th ribs was noted in right mid-clavicular line with infiltration of blood in the surrounding area and the lungs were edematous with widespread petechial hemorrhages. Fracture of spine between L1- L3 and T1-T3 with infiltration of blood in surrounding spaces and contusion of spine corresponding to fractured area. Hyoid bone and thyroid cartilage were intact.

Mucosa of respiratory tract was congested and showed multiple petechiae in larynx and epiglottis. The brain matter showed petechial hemorrhages. Visceral organs were congested.

Discussion:

Among the various types of asphyxial deaths, hanging is most prevalent, followed by strangulation (throttling and mugging) and

gagging. The neck is the common target in assault (strangulation or throttling) etc. because of its easy accessibility, rounded counters, minimum body shields, small diameter, unsafe location of airway and presence of vital blood vessels and spinal cord in the region. [2]

Homicidal hanging is even rarer and occurs in those who are weak and debilitated like children and elderly or in those who are intoxicated. Accidental hanging is rare and represents just 2% of the 250 cases of hanging autopsied at the department of Legal Medicine of Sousse Tunisia over a period of 15 years.

According to Davison (1989), it would represent about 5% of all hangings. [6] A survey in North Ireland revealed that 95.5% of hangings were suicidal, and only 4.5% were accidental. [2, 5] Hangings by the seat belt (Ross and Roger) or the electric window of the cars (Pelizza, 1995), hanging due to compression of the neck between the side bars of a bed in elderly subjects affected by neuropsychiatric pathologies (Osculati and Fassina, 2000) are some of the reported cases in literature of Forensic Medicine.

Dhiab et al reported 4 cases of accidental hanging, eight-year-old boy was discovered suspended by his woolen pullover hanged from the trunk of an olive tree, a four-year-old boy with mental illness found suspended when his neck caught in a hole of curtain, a nine-year-old girl discovered suspended on a rope that was used previously for religious celebration for tying the sheep, the rope was fixed to a plank, a chair was discovered close to the corpse, investigation found that it's a case of accidental hanging as the girl was playing and wanted to imitate the suspension of the slaughtered sheep. [6]

Sarathchandra Kodikara et al [2] reported a 25-year morphine intoxicated man returning from a night party was found dead, hanging from the protruded root of tree in sitting position, the back of his T-shirt was entangled with a jutted out root, whereas the front part of it was compressing the neck, just as a ligature, the scene being a slope having a slippery footpath.

Salem et al reported 40 years male patient was hanged when his collar of his shirt was fixed in a hook of iron fence, postmortem toxicological analysis found high level of alcoholic intoxication. [4]

In the present case, the deceased was walking on a platform made of iron rods and bars and a rolling crane shaft which is coming down and lifting up, and operated by an operator. but due to the darkness or imbalance while walking, the shawl wrapped around the

neck of deceased got entangled in the shaft of crane and lifted up, he remain for some time in that position and tried to make some noise but due to tight ligature he was helpless and can't call anyone and no one noticed him immediately.

When he fall on other side of crane, due to this noise of fall and crying coworkers rush for helping but by that time he had lost his consciousness but ligature mark still was wrapped around neck so they cut it into two parts. The manner of death in police requisition was mentioned as accidental hanging but prominent ligature mark around the neck associated with the injuries to rib cage, injuries to spine, injuries to both legs with fractures are present and these associated injuries and pattern of these injuries aroused at least some degree of suspicion, which was further clarified after a close investigation of the scene of crime.

Conclusion:

The major possibility of the incident is accidental entanglement of neck cloth into the rolling shaft of a crane, as a result of which the victim was unable to free him and was hanged as the shaft was hoisted up. When the shaft turned to the other side, the body of the victim was suddenly struck against the platform made of iron rods, thereby inflicting the associated major injuries and fractures on the body.

And the fracture of cervical spine is due to sudden jerk to spine while hanging as the point of suspension being anteriorly. The absence of any struggle mark or defence injuries on the body and absence of disturbance at the scene of death lessens the possibility of death by unnatural means.

Even though the injuries present on body were collectively sufficient to cause death, the prominent ligature mark over the neck and signs of asphyxia strongly suggest death by hanging.

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Fig.1: Right Limb of ligature mark Ends Just below Clavicle



Fig. 2: Ligature Mark on Left Side of Neck and Small Abrasions due to Friction of Ligature Material



Fig. 3: Fracture of Ribs on Right Side of Chest without Displacement, Infiltration of Blood at Surrounding Intercostal Area



Fig. 4: Petechial Hemorrhages over the Lung Surfaces

