

A CASE REPORT ON DELAYED DEATH IN ATTEMPTED HANGING

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ABSTRACT

Hanging is a form of asphyxia which is caused by the suspension of the body by a ligature encircling the neck, where the constricting force is being the weight of the body. Among the various modes of suicide, hanging is one of the most chosen methods. In most of the cases of hanging death of the individual occur immediately or the usual average period is about 3 to 5 minutes. In this article, the authors report a rare case of delayed death due to hanging in which a female survived after an attempted suicide by hanging. The victim was unconscious on admission even though she survived for three days from the incidence. In this article, authors will discuss the delayed death in this case and various complications in hanging.

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INTRODUCTION

Hanging is a form of asphyxia which is caused by the suspension of the body by a ligature encircling the neck, where the constricting force is being the weight of the body.¹ Among the various modes of suicide, hanging is one of the most chosen methods. Hypoxia is a general term referring to the inadequate supply of oxygen to the tissue or an impairment of the cellular utilization of oxygen for any reason.² In most of the cases of hanging usual fatal period is 3 to 5 min for death. Various instantaneous cause of death is asphyxia, venous congestion, the combined effect of asphyxia and venous congestion, cerebral anaemia. Reflex vagal inhibition and fracture or dislocation of cervical vertebrae. In the survivors, the delayed cause occurs due to aspiration pneumonia, infection, oedema of lungs and larynx, hypoxic encephalopathy, infraction of the brain, abscess of the brain and cerebral softening.³ In the present case, a female survived for three days after hanging and died due to delayed complications of hanging. The findings of post-mortem examination are described below and various complications in hanging is also discussed.

CASE REPORT

A 27 old married female was brought to the accident & emergency department of our hospital in unconscious state with alleged history of hanging at her home. She found hanged herself by a dupatta to a ceiling fan hook. She was remained unconscious throughout the admission. She expired after three days of survival.

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After that, medicolegal post-mortem examination of the deceased was carried out in the Deptt. of Forensic Medicine and the following findings were observed:

External autopsy findings: Bilateral eyes and mouth were closed. Anterior part of tongue showed bite marks.

Ligature mark: A brownish ligature mark [Fig:1] of width varying from 2 to 1 cm was present around the neck except posterior hairline.



Fig 1 Showing brownish ligature mark

The mark was situated above the thyroid cartilage, 5.5 cm below the centre of chin in midline. bilaterally the mark was going obliquely backwards and upwards. On right side, mark was situated over the right angle of mandible and vanished over the right mastoid process and on left side the mark was situated 2 cm below the left angle of mandible and vanished 2 cm posterior and below the mastoid process. The mark was dry and hard. On layer dissection, underlying muscles were pale, intact and the base of mark was pale, glistening, hard and

parchment like with marginal ecchymosis. On deep dissection, corresponding laryngotracheal structures were found congested.

Silvery white dried stain of saliva was seen coming out from left angle of mouth towards left angle of mandible [Fig:2].



Fig 2 Showing silvery white dried stain of saliva

Brain was congested and oedematous [Fig:3]. Both lungs were congested and oedematous. All other organs were found congested. Uterus showed in menstruation phase and bilateral ovary were congested.

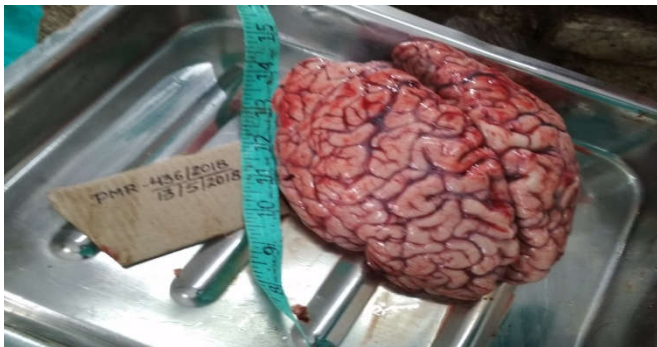


Fig 3 Brain showing edema and congestion

The cause of death was opined as hanging and its complications. Histopathological examination of brain and lungs confirms the findings observed at the time of autopsy i.e. brain show congestion and edema and lungs show pneumonitis.

DISCUSSION

The term “near hanging” refers to a patient who survives a hanging injury long enough to reach the hospital. Most of the patient develops respiratory and neurological complication immediately after the rescue. Pulmonary edema is the commonest complication which usually occurs immediately following their rescue from acute airway obstruction or suicidal hanging.⁴

Hypoxic ischemic encephalopathy is an important complication in a patient who survives an attempt of hanging. Hypoxic brain injury or global cerebral ischemia occurs due to reduced cerebral blood flow over the entire brain. At the time of hanging, oxygen supply is decreased to brain because of pressure on carotid, severe enough to damage brain cells. This hypoxia ultimately leads to encephalopathy. Necrosis of brain cells leads to inflammatory reactions, which ultimately causes swelling and edema. Brain edema together with postural lung congestion and infection leads to respiratory failure.⁵

A case was reported by Hausmann and betz in which victim was survived for 4 days after an attempted suicide by hanging. The cause of death was opined as cerebral infarction following

a traumatic thrombosis of the subtotally ruptured carotid arteries.⁶

In another study by Verma SK& Aggarwal BBL an accidental hanging of an adult male was reported who got trapped in the lift of a building and was accidentally hanged. He also survived for 39 days in the hospital and died.⁷

In a case series, report by Kumar RR and Punitha R three cases of delayed death by hanging were reported. In first case, a 22 years old male was survived for 3 days and died due to hypoxic encephalopathy and pulmonary edema. In second case, a 30 years old female was survived for 6 days and died due to pulmonary edema and haemorrhage. In third case, a 53 years old male survived for 36 hours and died due to hypoxic encephalopathy and aspiration pneumonia.⁸

Debbarma S and Deka SJ conducted study on 8 cases in which delayed death in hanging were included. In six cases, histopathology of lungs and brain showed pulmonary edema and hypoxic injury whereas two cases reported pneumonia in lungs and congestion of brain.⁹

Fremingston K. Marakand BalaramanR reported a case of an 18year old girl who attempted suicide by hanging with a shawl around her neck. She died on 28th day of the incident. The authors noticed, brain of the deceased was edematous and lungs were congested and edematous.¹⁰

Findings of the present study is very similar to the findings observed by authors of various studies.

CONCLUSION

Fatal period in hanging varies from 5 to 10 min. In most of the cases, due to delaying in the removal of ligature causes irreversible cerebral or neuronal damages which leads to coma and delayed death due to various complications. Removal of ligature within golden minutes may regain consciousness and person may survive.

Conflict of interest: None

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