

A MEDICOLEGAL STUDY OF ASPHYXIAL DEATHS WITH SPECIAL REFERENCE TO HANGINGR. Shankar¹, P. Brahmaji Master², L. C. Obulesu³**HOW TO CITE THIS ARTICLE:**

R. Shankar, P. Brahmaji Master, L. C. Obulesu. "A Medicolegal Study of Asphyxial Deaths with Special Reference to Hanging". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 81, October 08; Page: 14124-14128, DOI: 10.14260/jemds/2015/2008

ABSTRACT: Hanging has been employed as the method of suicide since time immemorial..The term asphyxia means absence of pulsation or pulselessness, asphyxia is best described as an interference with uptake of oxygen, with failure to eliminate carbondioxide .This study is conducted in the Department of Forensic Medicine, Kurnool Medical College, Kurnool, ANDHRAPRADESH, India. A total number of 2175 medico-legal autopsy were conducted by the Department of Forensic Medicine, Kurnool Medical College, Kurnool between June, 2004 to 6/2006. Out of the 2175 postmortem examination the maximum of 766 were due to poisoning followed by 615 were due to Burns, and 497 were due to road traffic accidents and 101 due to homicide and 75 due to hanging and 37 due to drowning and 6 deaths due to strangulation, and 9 cases due to fatal pressure over the neck, 2 due to smothering and 1 due to Throttling, 1 due to gagging and rest of the deaths due to other causes. Hanging constituted 4% of total deaths.

KEYWORDS: asphyxia deaths, deaths due to hanging, ligature materials used, suicide, accidental & homicidal.

INTRODUCTION: Death due to asphyxia is a common mode of death in suicidal, homicidal and accidental deaths; asphyxia may be due to mechanical, environmental, industrial or due to pathological causes.¹ Hanging is either the second or third most popular method of suicide. Usually all hangings are suicidal. Suicidal hangings are mainly due to financial loss, poverty, unemployment, physical and mental sufferings, love failure, unbearable pain and harassment for dowry. In most of the cases the females prefers use the materials which she wears usually. The level at which the loop lies is also of important in making the distinction between Hanging and strangulation by a ligature. The ligature lies above thyroid is 95% of all hangings and at the level of thyroid cartilage is about 15% of cases and it is below this cartilage in only 5% of Hanging.² The "mark" of strangulation might simulate that of hanging, when the victim is thrown to the ground, strangled and then his body is moved up by pulling up on the ligature. When hanging is affected from a low point of suspension, the mark on the neck closely resembles that of strangulation, it may take a horizontal course round the neck at the level of the upper border of the larynx, in this case expert's skill will be required to denote the cause and manner of death.³ All this cases needs careful investigations and care to decide cause and manner of death. Homicidal hangings were possible when the physical disproportion exist more between the assailant and if the victims was comatosed, intoxicated, and in children. postmortem hanging immediately after death is also looks like.⁴ Ante mortem hanging which requires special skill and knowledge and thorough investigation to come to a correct conclusion. In such cases it requires expert opinion to rule out whether the hanging was Ante mortem or Postmortem. After strangulation or throttling persons may be hanged, complete suspension in the absence of platform raises a presumption of murder, as gross injuries will be caused to the neck structure following Strangulation

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by a ligature and Throttling. Absence of ligature mark and double ligature mark and partial hanging with feet touching the ground may be mislead the investigating officer or may give a scope for false allegations as to the cause of death.⁵

EXPERIMENTAL: A total number of 2175 postmortem examination were conducted during June, 2004 to June, 2006 and among this 131 cases were due to violent asphyxial deaths. Among the asphyxial deaths 57.25% were hanging, the statistical analysis of these cases of hangings with regard to general incidence of age, sex, marital status, and materials used for hanging, socioeconomic factors etc., we reanalyzed. All information gathered from the deceased relatives and from the police panchanamas, crime scene reports and photographs taken and received from the police and postmortem reports of this department and histopathological reports of ligature mark from the Department of Pathology and other contributory factors was studied. Detailed postmortem examinations conducted in all the cases of hanging and also all external and internal findings were noted and studied. And all other associated injuries and factors like poisoning, sedation, and history of other attempted suicides and evidence of signs of struggle (Defence injuries), for presence of any drugs and sedatives, intoxicants and for the presence of any suicidal notes were studied.

OBSERVATIONS AND RESULTS:

1) A total number of 2175 medico-legal autopsies were conducted by the Department of Forensic Medicine, Kurnool Medical College, Kurnool between June, 2004 to 6/2006. Out of the 2175 postmortem examination the maximum of 766 were due to poisoning followed by 615 were due to Burns, and 497 were due to road traffic accidents and 101 due to homicide and 75 due to hanging and 37 due to drowning and 6 deaths due to strangulation, and 9 cases due to fatal pressure over the neck, 2 due to smothering and 1 due to Throttling, 1 due to gagging and rest of the deaths due to other causes. Hanging constituted 4% of total deaths. 2. Male and Female ration is almost 1:1. 3. 131 autopsies due to violent asphyxial deaths like hanging, drowning, strangulation, smothering and fatal pressure over the neck and throttling and gagging. 4. Out of the asphyxial deaths 75 were due to hanging. It was the first most frequent asphyxial death, 57.25% of total asphyxial deaths were due to hanging. 5. The highest number of cases of hangings were reported in the month of June, 2006. 6. Among the 75 hangings 41 were males, 34 hanging cases were females. 7. The maximum of 35 were in the age group of 21 to 30 years. Followed by 19 in the age group of 10 to 20 years. And 10 in the age group of 31-40 years. And 6 in the age group 41 to 50 years. And 03 in the age group of 51 to 60 years. And 2 in the age group 61 to 70 years. No hanging deaths were reported in the age group of 02 to 10 and 70 to 80 years. 8. Of the 41 male hanging cases 16 were in the age group of 21 to 30 years. 10 in the age group 31 to 40. And 6 in the age group of 10 to 20. And 4 in the age group of 41 to 50. And 3 in the age group of 51 to 60. And 2 in the age group 61 to 70. And out of 34 female hanging cases 19 were in the age group 21 to 30. And 13 were in the age group 10 to 20. 2 were in the age group of 41 to 50.

And deaths due to hanging between 51 and 70 were not reported. 41% of male victims were in the age group of 21 to 30. And 24% in the age group 31 to 40. And 14 % in the age group of 10 to 20. And 9% in the age group 41 to 50. And 7 % in the age group 51 to 60.

And 4% in the age group of 61 to 70 years. 55% of female's victims were in the age group of 21 to 30 years. And 38% in the age group of 10 to 30 years. And 5% in the age group 41 to 50 years. And deaths due to hanging were not reported between 51 to 70 years. 34 out of 41 males were

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married. And 22 out of 34 females were married i.e., 64% of female victims were married 82% of males were married. And 2 victims of male and 10 victims of female i.e., 4% male and 10% of female were unmarried. 6 of male victims and 2 of female victims i.e., 14% of male and 6 % of female marital status was not known. 9. Out of 75% cases of hanging 54 are complete. And 21 victims body either the feet or toes were touching the ground. (Partial hanging).10.32 of 41 males and 34 females were committed suicide by hanging in their houses only. And 9 of male victims and 2 of female victims committed suicide out of their residence.11.Out of 75 victims of hanging 27 cases used sari and 3 victims used lungi as ligature material, i.e., 17% of male and 69% of female the material was soft ligature material. Cotton rope in 19 cases and nylon threads in 16 cases and coir rope in 9 cases and coconut rope in 1 cases used as ligature material. 12. Out of 75 cases of hanging in 68 cases single ligature mark was found over the neck and 7 cases double ligature mark was found.93% of single ligature mark found in the male victims. 88% single ligature mark found in the females. And 7% double ligature mark in the male cases. And 12% double ligature mark in the female cases was found. 13. The ligature mark was placed above the thyroid cartilage level in 58 cases of hanging. And over the thyroid in 14 cases. And below the thyroid in 3 victims of hanging. 14. The ligature material was brought with victim's body in 50 cases. And not accompanied in 25 cases of hanging. 15. Among the male 20 were committed suicide by hanging as they were disgusted with life. And 6 were committed suicide due to poverty. And 5 due to drug addiction/intoxication (Chronic Alcohol users).And 3 due to family draw backs. And 3 due to failure in love.

And 3 due to abdominal pain.And1 due to accidental hanging. Out of 34 females 16 were committed suicide due to abdominal pain. And 5 due to harassment / assault by in laws and others. And 4 due to dowry harassment. And 4 cases as they are disgusted with life.

And 2 due to poverty. And 2 due to family draw backs.16. Out of 75 cases hanging dribbling of saliva present in 28(68%) cases. And 22(65%) victims of male and females. And not present in 13 (32%) and 12 (35%) of victims of male and females. 17. Postmortem lividity glove and stocking type was found in 29 cases of hanging. And found over the back of the body in 40 victims. And not found in 6 victims due to decomposition. 18. Out of 75 cases of hanging thyroid cartilage was found injured in 21 cases. And found intact in 54 cases.19.Hyoid bone was found fractured in 13 victims. And intact in 64 victims who have committed suicide by hanging. Among 131 asphyxial deaths 75 were hanging i.e., 57.25%. And 37 were drowning i.e., 28.24%. And 6 were strangulation i.e., 4.58%. And fatal pressure over the neck i.e., 10 cases i.e. 7.63%. And gagging one is 1 case i.e. 0.76%.

DISCUSSION: 1. Asphyxial deaths constituted 3.44 percentage of total autopsies conducted during 6/2004 to 6/2006. Among the 131 asphyxial deaths. Hanging cases 75(57.25%).And drowning cases 37(28.24%). Strangulation cases 6(4.58%). Cases fatal pressure over the neck 10(7.63%). And 01 case of gagging (0.76%). 2. Among the total deaths hanging constituted 3.44%. In the present study hanging constituted 57.25% of total violent asphyxial deaths. No hanging cases were found below 10 years and above 80 years. Incidence of hanging was more in the age group of 21-30years⁶. All the female who committed suicide by hanging were in the reproductive age group. 3. The majority of hangings were complete hangings 54, and in 21 cases the feet were touching the ground. (Partial hanging). In the present analysis it was found that majority of the victims 32 of 41 males, 32 of 34 females preferred their houses to commit suicide by hanging.3. 65% females and 17% males victims used soft ligature material. And 83% males used hard materials. 93% of males and 88% of females

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used simple loop to commit suicide. And the rest used hard ligature material with either forms of knot. 4. In most of the cases (78%) the ligature mark placed between hyoid bone and the chin. The greater horn of the hyoid bone was found fractured in 17% of cases and found intact in 83% of cases.⁷ And the thyroid cartilage was found injured in 13% of cases. The hyoid bone fractures were more common in the oldage group due to ankylosis and thyroid cartilage fractures were due to ossification.⁸ And absent were not found below 40 years of age. 5. Postmortem lividity in 44% of victims was found as glove and stocking type. 6. Almost all of the cases of hanging were suicidal in nature and only one accidental hanging was reported, No homicidal hangings were reported. 7. In 49 suicidal hangings in male precipitating cause was disgusted with life due to low socio economic conditions and by other means. In 46% of female suicidal hangings were precipitated by chronic abdominal pain. And 12% suicidal hangings were precipitated in males due to drug addiction or intoxication. And 15% due to poverty. And another 7% were precipitated by love failure. And in females 21% females were died due to dowry harassment. And 15% females were committed suicide due to harassment/assault⁹.

CONCLUSIONS AND SUGGESTIONS:

1. Among the asphyxial deaths hanging is more common.
2. Hanging is almost invariable suicidal, except in masochistic accidents. It must always be considered as suicidal unless the contrary is proved.
3. Most of the hangings were indoors or at the place of work.
4. Men and women will use something available at home. There is no preference for particular type of material used as ligature.
5. Hanging is common in the age group of 10-70years and more incidences were found between 21-30 years.
6. Most of the hangings were typical and complete hangings in the study.
7. After the failure of earlier attempts to commit suicide, finally they will opt hanging to commit suicide.
8. Incidence of hanging is more in married persons.
9. Fracture of hyoid and thyroid cartilage are un-common below the age of 40 years.
10. The postmortem staining will be glove and stocking type in majority of the cases.
11. Suicidal hanging is more common among recently married women due to marital disharmony, especially due to harassment for dowry.
12. As soon as a death by hanging is reported to the police station, the medical officer on duty should be called to visit the scene of the offence before the body is removed from the hanging position.
13. The body has to be brought for medicolegal autopsy with the ligature material in situ.
14. The cyanosis of the face in partial hanging is due to obstruction of the carotid veins and arteries.
15. The scene of offence should be photographed.
16. A detailed enquiry/history of all the hanging cases and detailed external and internal examination of the body is essential to identify the antemortem hangings and also to differentiate between hanging and the ligature strangulation.

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FINANCIAL OR OTHER**COMPETING INTERESTS:** None

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Date of Submission: 23/09/2015.
Date of Peer Review: 24/09/2015.
Date of Acceptance: 30/09/2015.
Date of Publishing: 06/10/2015.