

# Four Years Profile of Cases of as Asphyxial Death Autopsied at Ghulam Muhammad Mehar Medical College / Hospital Sukkur

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## ABSTRACT

**Background:** History of Asphyxial death is as old as human history. Homicide is oldest crime in human civilization and was started from murder of Abel by the hand of Cain. Homicide can be done by using mechanical asphyxia like, throttling, smothering, and hanging. Similarly suicide can be done by means of hanging where throttling by one self is rare. In small children, old and feeble people smothering is choice of homicide.

**Study Design:** Retrospective study

**Place and Duration of Study:** This study was carried out in the office of additional police surgeon and Forensic Medicine Department of Ghulam Muhammad Mehar Medical College Sukkur (GMMC), of asphyxial death from 2007 to 2010.

**Materials and Methods:** This retrospective study includes results of hundred autopsy examination carried out in the office of additional police surgeon and Forensic Medicine Department of Ghulam Muhammad Mehar Medical College Sukkur (GMMC), of asphyxial death. Total period of study was four years so that from 2007 to 2010.

**Result:** The study revealed that the individual in the third decade of life are maximally involved the ligature was a single loop in 77.7% cases and multiple in 22.3% cases. The most frequent non-specific sign was congestion seen in 70% cases and petechial haemorrhage in 78% cases. The hyoid bone was fractured in 30 cases. The associated injuries found were physical and sexual in nature in 73% of cases.

**Conclusion:** The vast majority of cases of asphyxial death were as a result of strangulation, both manual and by means of rope (ligature). Associated injuries of physical nature were present in 68% of cases. This reveals the cruelty of the criminals towards human being.

**Key Word:** Asphyxia, smothering, strangulation, ligature, sexual.

## INTRODUCTION

There is strong relation between criminal intent and crimes. For commission of crime a person is supposed to be having criminal mentality and action. A person who does not have any regard about humanity he can commit any type of crime. The present study is about asphyxial death cases those were reported during the years 2007-10 at additional police surgeon office and department of Forensic Medicine of GMMC Sukkur.

Oxygen supply is essential for the integrity of human tissue, and lack of oxygen is incompatible with life. There are different definitions of asphyxia which are as follows.

**According to Parikh:** asphyxia is defined as pulselessness derived from Greek word and is restricted to those forms of oxygen lack which result from mechanical interference with the process of respiration, that is, anoxic anoxia<sup>1</sup>.

**According to Krishan Vij:** The term asphyxia commonly means "lack of oxygen". The term has been translated from the original Greek, implying "pulselessness / Absence of pulsation". While Hypoxia is a general term referring to inadequate supply of

oxygen to the tissues or an impairment of the cellular utilization of oxygen for any reason<sup>2</sup>.

**According to Nasib R. Awan.**

Asphyxia is defined as interference with the process of oxygenation in the lungs. The essential substance of asphyxia is the struggle to breathe against some kind of interference with respiration e.g. Mechanical asphyxia, Pathological asphyxia, Toxic asphyxia, Environmental asphyxia and Iatrogenic asphyxia<sup>3</sup>.

In the USA most common method of Homicide and suicide is by means of firearm<sup>4</sup>.

More than 25000 people die every year in the USA by injuries caused by firearm<sup>5</sup>.

A part from data collected by recent study from Sukkur, in rest of Pakistan most common cause of Homicide is Firearm.

Oxygen supply is essential for the integrity of human tissue and lack of oxygen is incompatible with life. According to Shapiro many rapid deaths of medico-legal importance are fundamentally due to an interference with oxygenation of the tissues. Death due to an interference with oxygenation of the tissues results from hypoxia or anoxia<sup>6</sup>. The term anoxia is used when oxygenation of tissue is interfered with, it may occur due to non-availability of oxygen or its defective

utilization. The cases of mechanical asphyxia require medico legal investigation. The airway is blocked from within or out side. When the external orifices are blocked, It is called smothering, blocking from within is called gagging, when the oral cavity is stuffed, and choking when foreign material enters into the trachea or main bronchus. Strangulation is one of the most common causes for violent asphyxial mode of death. Strangulation may be caused by a ligature such as neck tie, scarf, rope, electric cable, dhoti, azaar band, belts and rubber and lather straps or by any linear, flexible material. If by hands, it is called manual strangulation or throttling, if the forearm is pressed against the neck, is called mugging. When constricting force is the weight of the victim body itself, it is called hanging. In a study conducted on survived cases of strangulation in Switzerland<sup>7</sup> three groups have been defined light strangulation confined to skin abrasions and / or bleeding from neck and /or damage to deeper soft tissues or larynx. In cases of severe, life threatening strangulation petechial hemorrhages are seen. The present study was planned to see the incidence and autopsy finding of cases of strangulation, throttling and hanging.

## MATERIALS AND METHODS

The present study includes the cases of strangulation, throttling and hanging subjected to medico legal autopsy in the department of medico legal GMMMC Hospital Sukkur during years / 2007,2008,2009 and 2010 that is study period extending over four years. The following parameters were recorded.

1. Age
2. Sex
3. Ligature Marks
4. Non specific asphyxial findings
5. Status of hyoid bone
6. Presence of associated injuries

## RESULT

Total of 132 cases 100 cases examined, out of them 75% were male and females were 25% as shown in the table 01. The age distribution is given in table 02. The pattern of ligature mark revealed that ligature was applied as single loop in 80 cases (80%) and multiple loop in 20 (20%) cases. In of throttling, multiple abrasions and bruise were found in the neck region. The non specific asphyxial finding like congestion were present in 86 cases (86%) petechiae found in the eyes were in 22 cases in the lung region in 40 cases petechiae of heart were present in 16 cases bleeding from ears was seen in 6 cases (6%) and from the nose in 17 cases (17%) hyoid bone was fractured in 30 cases (30%) associated injuries of physical nature were present in 68

cases (68%) and injuries of sexual nature in 08 cases these cases 05 were females and 3 males (table 05).

**Table No.1: Sex Distribution**

| Sex    | No. of Patient | Percentage |
|--------|----------------|------------|
| Male   | 75             | 75%        |
| Female | 25             | 25%        |
| Total  | 100            | 100%       |

**Table No.2: Age Distribution**

| Age(Age Years) | No. Patient | Percentage |
|----------------|-------------|------------|
| 09             | 00          | 00%        |
| 10-19          | 10          | 10%        |
| 20-29          | 50          | 50%        |
| 30-39          | 20          | 20%        |
| 40-49          | 20          | 20%        |

**Table No.3: Presence of Non Specific Injuries**

| Finding                | No. Patient | Percentage |
|------------------------|-------------|------------|
| Congestion             | 86          | 86%        |
| Cyanosis               | 14          | 14%        |
| Petichial haemorrhages | 78          | 78%        |
| Eyes                   | 22          | 22%        |
| Lungs                  | 40          | 40%        |
| Hearts                 | 16          | 16%        |

**Table No.4: Status of Hyoid Bone**

| Finding       | No. Patient | Percentage |
|---------------|-------------|------------|
| Fractured     | 30          | 30%        |
| Not Fractured | 70          | 70%        |

**Table No.5: Presence of Associated**

| Finding  | No. Patient | Percentage |
|----------|-------------|------------|
| Injuries | 76          | 76%        |
| Physical | 68          | 68%        |
| Sexual   | 08          | 08%        |

## DISCUSSION

In the present study 100 cases were examined. The male to female ratio was 3.1 in study at Delhi the ratio was the same<sup>8</sup>. The maximum cases are from the third decade of life. This is also in accordance with the Delhi study<sup>8</sup>. The presence of congestion seen in 90% and petechial haemorrhage 78% were the most frequent non-specific finding. The hyoid bone was fractured in 22% cases in Delhi study 80% of the cases had fractured neck bone cartilage. In a study in Australia<sup>9</sup> the survived cases of strangulation were studied. In such cases the deeper damages were evaluated using the M.R.I technique (15 scanners). Haemorrhage was observed in subcutaneous fatty tissues of the neck, muscles of the neck and larynx and larynx soft tissues. Associated injuries of physical and sexual nature were present in cases strangulation. Physical violence may be

applied to over power the victim and may be found any where on the body. Where as sexual abuse may be followed by strangulation simple to eliminate the risk of identification of the offender. In our study, associated injuries were found in 73 cases, out of these 60 cases had physical injuries and in 08 of the cases the injuries were of sexual nature. In Delhi study associated injuries were found in 90% of the cases. Our study is also concomitant with study from Belgrade<sup>10</sup>.

Suicidal strangulation though not very common but it possible. Concomitant with a report published by Dr. Anil Aggrawal<sup>11</sup>.

## CONCLUSION

In case where congestion and petechal haemorrhage are present the possibility of asphyxia death may be kept in mind and neck should carefully examined to rule out interference. The neck examination should be conducted with great care. Internal examination of the neck structure should be done thoroughly, following special dissection techniques. Neck should be dissected last, opting for incision to open the neck.

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