

Autopsy Study of Homicidal Cut Throat Injuries

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Abstract

The present prospective study from January-2010 to December -2015 for a period of six years was conducted in the mortuary of department of Forensic medicine and toxicology, Dr. B. R. Ambedkar Medical College, Bengaluru, South India. Totally 3477 medico legal post-mortems were conducted during this period, out of which cut throat injuries accounted for 0.92% of total autopsies. 32 cases were analysed for this study purpose. All these cut throat injuries irrespective of those directly or indirectly contributing to the death were studied. Of these 32 victims, 59.37% were males and 40.62% were females. Majority of those were in the age group of 21 to 30 years (17 cases). Vengeance was the major motivating factor contributing to 43.75% of the cases. The most common cause of death was haemorrhagic shock which accounted for 87.5% of the cases. Cut throat injuries was associated with other injuries in 26 cases. Majority of cut throat injuries were situated above the thyroid cartilage contributing to 56.25% of the cases. Internal jugular vein (93.75%) was the commonly injured structure followed by carotid artery (71.87%). Majority of the wound were directed from left to right in 65.62% cases.

Keywords: Cut throat injury, Carotid artery, Internal jugular vein, Thyroid cartilage.

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Introduction:

Homicidal cut throat injury is usually seen on both sides of neck. It is situated on or below the thyroid cartilage. Direction of injury is transverse or from below upwards. If attacked from front the wound runs from left to right. Edges are sharp and clean cut. Bevelling may be seen. Usually a single deep wound is seen. May be multiple in "over kill". But all are deep. Tailing and hesitation cuts are absent. Defence wounds may be present on palms and wrists¹.

Cut throat injuries are incised wounds in the anterior neck inflicted by sharp weapon. Globally, cut throat injuries account for

approximately 5-10% of all traumatic injuries with multiple structures being injured in 30% of patients. The triggering factors for homicidal cut throat injuries are political conflict, familial, land related disputes and sex related crimes².

Injuries to the throat comprises one of the major methods adopted to kill or as a mean to sever the head, so as to conceal the victim's identity or as a mode of revenge. With the presence of vital blood vessels, nerves and wind pipe, the neck constitutes one of the most vital structure invites fatality as death is imminent³.

Materials and Method:

This prospective study from January 2010 to December 2015 for a period of six years was conducted in the mortuary of department of Forensic medicine and toxicology, Dr. B. R. Ambedkar medical college, Bengaluru, South India. 32 cases of cut throat injuries were selected for this study purpose. The cases

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where history was incomplete were discarded from the perview of the present study. The age, sex, motivating factors, place of occurrence, characteristics of cut throat wound with or without associated injures and the neck structures affected were analyzed.

Results:

In the present study, a total of 32 autopsy cases were studied, which demonstrated the preponderance of male victims (59.37%) over the female victims (40.62%) with male to female ratio of 1.46:1 as shown in Table 1. The common age group affected was 21-30 years with 17 cases (53.12%) as depicted in Table 2. Majority of cut throat injuries were as a result of vengeance, contributing to 43.75% of the cases (Table 3).

Table 1: Sex wise case distribution.

Sex	Cases	Percentage (%)
Male	19	59.37
Female	13	40.62

Table 2: Age wise distribution of cases

Age (Years)	Male	Female	Total
1 – 10	0	0	-
11 – 20	01	0	01 (3.12%)
21 – 30	11	06	17 (53.12%)
31 – 40	04	03	07 (21.87%)
41 – 50	02	03	05 (15.62%)
>50	01	01	02 (6.25%)
Total	19	13	32

Table 3: Showing motivating factors

Motivating factors	Number of cases
Vengeance	14 (43.75%)
Financial conflicts	08 (25%)
Relationship crisis	06 (18.75%)
Robbery	04 (12.5%)

Major cause of death was haemorrhagic shock, 87.5% of deaths followed by deaths as a result of asphyxia (12.5%) as shown in Table 4. Cut throat injury was associated with other injuries in 26 cases (81.25%) as

depicted in Table 5. Internal jugular vein (93.75%) was the commonly injured structure followed by carotid artery (71.87%) and trachea (65.62%) as shown in Table 6. 65.62% (n=21) of the cut throat injury were directed from left to right and 34.37% (n=11) were directed from right to left (Table 7).

Table 4 : Showing cause of death

Cause of death	Number of cases
Haemorrhagic shock	28 (87.5%)
Asphyxia	4 (12.5%)

Table 5: Showing association with other injuries

Type of injury	Number of cases
Sharp force	22 (68.75%)
Blunt force	04 (12.5%)

Table 6: Showing neck structures affected

Neck structures affected	Number of cases
Skin and soft tissue	32 (100%)
Internal jugular vein	30 (93.75%)
Carotid artery	23 (71.87%)
Thyroid cartilage	12 (37.5%)
Larynx and trachea	21 (65.62%)
Oesophagus	18 (56.25%)
Cervical vertebra	11 (34.37%)

Table 7: Showing wound characteristics

Wound characteristics	Number of cases
Location	
Above thyroid cartilage	18 (56.25%)
At thyroid cartilage	09 (28.12%)
Below thyroid cartilage	05 (15.62%)
Direction	
Right to left	11 (34.37%)
Left to right	21 (65.62%)
Wound Margins	
Clean cut margin	25 (78.12%)
Contused margin	07 (21.87%)

Discussion:

Of the 3477 autopsies, 32 cases had cut throat injuries (0.92% of total autopsies). The present study demonstrated the preponderance of male victims (19) over the female (13) victims. Many studies were in agreement with our study.^{2,3,4,5,6}

The highest incidence of cut throat injuries was in the age group of 21 to 30 years (53.12%). This finding was consistent with the study done by other authors.^{2,4,5,6}

In most of the homicides, the motive was vengeance (43.75%) due to gang rivalry, followed by financial conflicts (25%), relationship crisis (18.75%) and robbery (12.5%). In a study, done by Manilal Aich, political conflict (22.38%) and the land dispute (25.37%) were the major contributory factors behind the homicidal cut throat injuries⁷. This finding support the findings made by other authors.^{3,4}

Haemorrhagic shock was the main cause of death in 28 cases (87.5%) either solely due to cutting of the great vessels or due to combined bleeding from other injuries, followed by asphyxia due to aspiration of blood in to the respiratory tract in 4 cases (12.5%). These findings were consistent with study made by other authors.^{3,4}

The present study also analysed the place of occurrence of crime. The majority of incidents of cut throat injuries were reported from outdoors (road side) contributing 71.87% of the cases followed by the place of residence which accounted for 28.12% of the cases. In 32 cases of homicidal cut throat, other associated injuries due to sharp force such as incised wound, stab wound and chop wound were noted in 22 (68.75%) cases, and 4(12.5%) cases showed injuries due to blunt force. This was suggestive of repeated unsuccessful attempts ending up with fatal cut throat injury. Many studies were in agreement with our study.^{3,4,5,8} This study indicates that not all cut throat injuries are fatal and they may be only secondary to other fatal injuries on the body like stab wound and chop wound.

In our study, direction of cut throat injury from left side of neck to right side of neck were observed in 21 (65.62%) cases, while the direction of cut throat injury from right side of neck to left side of neck was noted in 11(34.37%) cases. In our study, majority of cut throat injury was situated above thyroid cartilage in 18 cases (56.25%), at the level of thyroid cartilage in 9 cases (28.12%) and below thyroid cartilage in 5 cases (15.62%). Cut throat injury showed clean cut margins in 25 (78.12%) cases and contused margins were noted in 7(21.87%) cases. These were consistent with findings by other authors.^{3,4,5} Majority of cut throat injury were directed from left to right. This is possibly due to right hand dominance of the majority of individuals.

In our study, cut throat injuries were caused by sharp cutting weapons like barber's knife, kitchen knife, button knife, razor blade, swords, daggers and spring knife. Of the 32 homicidal deaths, in 9 cases weapons were retrieved from the scene of crime, in 20 cases weapons were recovered later and in 3 cases, weapons were implied based on the underlying damage to the neck structures, depth of the wound and margins.

Internal jugular vein (93.75%) was the most commonly injured structure followed by carotid artery (71.87%), larynx and trachea (65.62%). This finding was comparable with the observations made by other authors.^{3,4,5}

Conclusion:

Cut throat injuries have become one of the significant cause of mortality among young males and females in our society, where resources for pre-hospital and hospital trauma care are limited. Establishment of efficient emergency health care services for pre-hospital care and effective ambulance system for rapid transport of injured victims to hospital will reduce the mortality associated with the injuries. Stringent and appropriate measures by the government agencies for enforcement of law and order will reduce the burden of homicidal cut throat in rear future.

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Conflict of interest – None

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