



CUT THROAT INJURIES - A RETROSPECTIVE STUDY AT A TERTIARY HOSPITAL

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KEYWORDS

INTRODUCTION

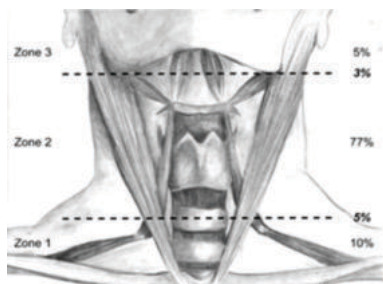
All injuries to the neck are potentially life threatening because of the many vital structures in this area.

Injury to the vital structures may become rapidly fatal from profuse hemorrhage from damaged major blood vessels, air embolism or airway obstruction. [1]

Globally, cut throat injuries account for approximately 5% to 10% of all traumatic injuries with multiple structures being injured in 30% of patients.

However, in developing countries, the incidence is rapidly increasing due to resource conflicts, poverty, unemployment, firearm access, substance misuse, and rising crime rates.[2]

According to Roon and Christensen's classification, neck injuries are divided into three anatomical zones.



Zone I is -
The area from the clavicles to the inferior margin of cricoid cartilage.

Structures include the vertebral and proximal carotid arteries, major thoracic vessels, superior mediastinum, lungs, esophagus, trachea, thoracic duct and spinal cord.

Zone II extends from- The inferior margin of the cricoid cartilage to the angle of the mandible. Structures include, the carotid and vertebral arteries, jugular veins, esophagus, trachea, larynx and spinal cord.

Zone III is- the angle of the mandible and the base of the skull. It includes the carotid and vertebral arteries, pharynx and spinal cord.

Severity of laryngeal injury (Schaefer Fuhrman's classification)

Severity of laryngeal injury (Schaefer Fuhrman's classification)	
Group	Injury
I	Minor endolaryngeal hematoma without detectable fracture
II	Edema, hematoma, minor mucosal disruption without exposed cartilage, and nondisplaced fractures
III	Massive edema, mucosal disruption, exposed cartilage, vocal fold immobility, and displaced fracture
IV	Group with disruption of anterior larynx, unstable fractures, two or more fracture lines, or massive trauma to laryngeal mucosa
V	Complete laryngotracheal separation

Severity of cutthroat injuries depends upon-

1. Nature and depth of the injury
2. Injury to neurovascular and aerodigestive tract tissue
3. Hemodynamic and respiratory statuses of the patient. [3]

Management of cut throat injuries -

- Is a multidisciplinary approach (Involves Otolaryngologist, anesthesiologist, cardiovascular surgeon & psychiatrist)
- Airway is established either via endotracheal intubation or tracheostomy and then surgical repair of the transected tissues; which may need wound debridement if the wound is infected.
- While managing the victim the aim should be towards restoration of swallowing, phonation and breathing.
- History of suicidal attempt should have a psychiatric consultation to rule out underlying mental illness that may lead to second suicidal attempt by the patient. [4]

AIM & OBJECTIVES -

- 1) To study demographics and cause of injury of patients with cut throat injury
- 2) To study injury site and extent of injury in patients with cut throat injury
- 3) To study surgical treatment given, complications if any and duration of hospital stay in patients of cut throat injury

MATERIALS AND METHODS -

A retrospective study was carried out from data of patients admitted in our ENT ward from January 2020 to October 2023. 15 cut throat injury patients having laryngeal / tracheal injury were selected

Parameters of assessment included were

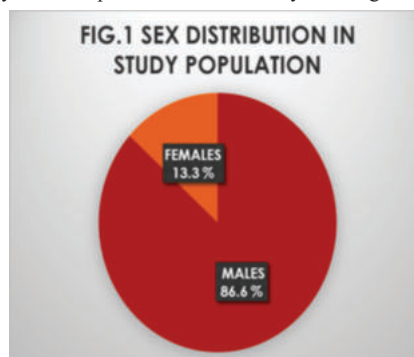
- 1) age
- 2) Sex
- 3) etiology
- 4) Type of injury
- 5) site of injury
- 6) extent of injury and surgical treatment given
- 7) duration of hospitalization and complications occurred were noted.

RESULT-

1) According to age and sex -

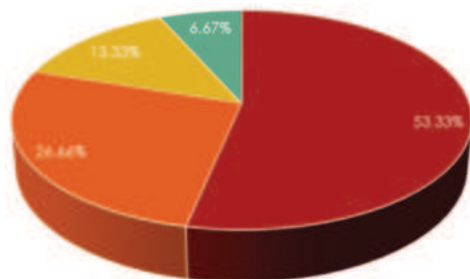
In the present study, 13 patients were males and 2 patients were female. 12 patients were in the age group of 20 to 40 years. One patient was below 20 years and 2 patients were above 10 years of age.

FIG.1 SEX DISTRIBUTION IN STUDY POPULATION



Out of the 15 cut throat patients

- 8- homicidal attacks, (shown in pie chart as brown)
- 4- suicidal attempts, (shown in pie chart as orange)
- 2- road traffic accidents (shown in pie chart as yellow)
- 1- accidental fall (shown in pie chart as green)



Management -

All patients were given tetanus toxoid and antibiotics. Dirty wounds were cleaned first with a lot of saline followed by diluted Betadine and antibiotic solution.

The superficial cut throats were managed with the simple layered closure of wound under aseptic precautions.

Trachea was exposed and injured in one case and larynx was injured in 14 cases.

Cases where airway was compromised, tracheostomy was done and airway was secured.

After maintenance of 100% oxygen saturation on air with normal vocal cord mobility, emergency tracheostomy done followed by permanent closure.

14 patients had zone II of the neck involved. One patient had zone I involvement and no patients had zone III involvement.

ZONE OF NECK INVOLVED IN INJURY	NUMBER OF PATIENTS	PERCENTAGE
ZONE I	1	6.67
ZONE II	14	93.34
ZONE III	0	0

In 11 cases, airway was secured by doing emergency tracheostomy and in 4 cases were intubated.

METHOD OF SECURING AIRWAY	NUMBER OF PATIENTS IN WHICH IT IS USED	PERCENTAGE
INTUBATION	4	26.67
TRACHEOSTOMY	11	73.34

IV access was secured by using 2 wide bore cannulae. Patients were made vitally stable and then shifted for primary repair of the laryngeal injuries.

Suturing of laryngeal structures was done with 3.0 prolene suture and subcutaneous suturing was done with vicryl 3.0 suture.

Skin suturing was done with 3.0 ethylone suture.

STRUCTURES INVOLVED IN THE NECK	NUMBER OF PATIENTS	PERCENTAGE
SKIN, PLATYSMA, SOFT TISSUES, FASCIA (SUPERFICIAL AND DEEP) , SMALL VESSELS	15	100
LARYNX	14	93.33
HYPOPHARYNX	10	66.67
TRACHEA	1	6.67
INTERNAL JUGULAR VEIN	1	6.67

Patients were followed up after 20-25 days with X ray. None of them showed any complication

DURATION OF HOSPITALIZATION	NUMBER OF PATIENTS	PERCENTAGE
LESS THAN 15 DAYS	5	33.33
MORE THAN 15 DAYS	10	66.67

DISCUSSION -

In our study of cut throat injuries, 15 cases were included.

Male to female ratio was 6.5:1.

The age group ranged from 16 to 50 years. Most of the patients were in the age group of 20 to 40 years (80).

Most patients had hospital stay more than 15 days.

Our results were similar to other previously done studies.

Harsh Vardhan Bhardwaj et al studied 36 cases, 26 were males and 10 were females.

The majority of victims were young adults (61.10%) in age group 20 to 40 years. [5]

Results of our study correlated with previously done study by Acharya Souvagini et al, 16 patients out of 24 ranged in age from 20-30 years with males predominating (23 males, 1 females) [6]

Kumar Rajesh et al studied 60 cut throat cases, 41 were males and 19 were females. The majority of victims were young adults (60%) between age 16-30 years. [7]

Most common cause of cut throat injury in our patients was homicidal attacks (8) followed by suicidal attempts (4) followed by road traffic accidents (2), followed by accidental fall (1) Results correlated well with previous study done by dinesh rao on 74 patients showing majority were homicidal cases 97% [8]

Dr Anand Navnath Tuljapure mentioned in his study, the injuries around neck were divided in to three anatomic zone for the purpose of case of assessment. Out of all 41 cases around 70.7% cases were in zone II followed by zone (10) III(17.03%) and followed by zone I (12.13%). In our study 93.33 percent patients (14) had cut throat in anatomical Zone II. 6.67 percent patients (1) had an injury in Zone I. while none of the patients have injuries in Zone III. [9]

In a study by Dr.Sritama De and Dr Mridul Kr. Sarma, out of 165 cases the most common zone in penetrating neck trauma was Zone II (89.09%).

In our study most of the patients presented with deep wounds 14 (93.33%) while one case was superficial, while it was just opposite in a study done by Dr.Sritama De and Dr Mridul Kr. Sarma. [10]

Our results were similar to a study conducted at Madhurai Medical College which reported more of deep injuries and less patient with superficial injury Regarding the involvement of deep structures of neck in the same study on 51 cases, following was noticed, larynx 12 (23.5%), hypopharynx 4 (7.84%) and trachea 1 (1.96%) were the common organs (12) involved. Which was almost similar to the findings in present study. [11]

In our study Simple wound closure was done in one case. Laryngeal and hypopharyngeal repair was done in 14 cases. Tracheostomy was done in 11 cases. (73.34%) Rest 4 were intubated. Psychiatric consultation was required in 4 cases (26.66%). None of the patients showed any postoperative complication. 66.67 percent patients had hospital stay more than 15 days.

CONCLUSION -

Young adult males are more vulnerable to cut throat injuries with majority having zone II injury and homicide being the most common cause. Airway should be secured by urgent intubation or tracheostomy and patient stabilized. Careful wound repair with strict vitals monitoring can save patients lives. Addressing the root cause of violence and treating the patients with psychiatric illness with suicidal tendency will probably reduce the incidence of cut throat injury in our society..

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