Original Research Paper

Volume - 13 | Issue - 06 | June - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Otorhinolaryngology

MANAGEMENT OF LARYNGOTRACHEAL INJURY WITHOUT TRACHEOSTOMY

Dr. V. Saravanan	Associate Professor ENT.
Dr. M. Nallasivam	Assistant Professor ENT.
Dr. Aswini M. B.	Junior Resident ENT.
Dr. J. Ezhilarasan*	Assistant Professor ENT. *Corresponding Author

ABSTRACT **Objective:** Cut throat injuries are incised injuries or those resembling incised injuries in the neck inflicted by sharp objects. This may result from accident,suicide or homicide. Cut throat injuries are potentially life threatening because of many vital structures in this area. In case of mild to moderate laryngotracheal injuries can be managed with primary wound closure without tracheostomy. So all cut throat injures do not require tracheostomy. **Methodology:** In cut throat injuries, when there is minor laryngotracheal injury or clear cut linear cartilage injury, such cases can be managed with primary wound closure in layers with corrugated rubber drain kept in the subcutaneous plane without tracheostomy.This gave a better outcome of patients and by means of this we can avoid tracheostomy which is also like creating an additional trauma to already injured laryngotracheal cartilages. **Results:** By careful assessment of these cut throat injuries, tracheostomy can be avoided with primary wound closure alone. Around 20 cases have been treated in this way in our tertiary care hospital and gave a better outcome. **Conclusion:** Cut throat injuries can be managed with primary wound repair without tracheostomy in case of mild to moderate laryngotracheal injuries, so we can avoid additional injury to laryngotracheal cartilages.

KEYWORDS : Cut throat, laryngotracheal injury, tracheostomy, primary wound closure

INTRODUCTION:

Cut throat injuries can be incised, stabing, gunshots and lacerated wound which can be due to accidental, homicide or suicidal attempts. Globally, cut throat injuries accounts for about 5% to 10% of all traumatic injuries. Cut throat injuries are potentially life threatening because of many vital structures like vessels, airway in this area . Exposed hypopharynx or larynx, hemorrhage, shock and asphyxia are the common causes of death following cut throat injuries. So appropriate measures can save lives in the majority of cases. Most of the cases presents with laryngeal injury. Surgical procedures required to manage all patients of cut throat injury like simple closure, laryngotracheal repair and tracheostomy depending on the extent of injury. The location of the injury suggests which structures may be involved. Injuries to the larynx and trachea can be asymptomatic or may cause hoarseness, laryngeal stridor, subcutaneous emphysema or dyspnea secondary to airway compression or aspiration of blood. Following the cut throat, hemorrhage, shock and asphyxia from aspirated blood are the commonest causes of death. Immediate measures will save lives in vast majority.

AIMS AND OBJECTIVES:

In cut throat injury patients with mild to moderate laryngotracheal injury can be managed with primary wound closure in layers with corrugated rubber drain kept in the subcutaneous plane and without tracheostomy. By means of doing tracheostomy, its like creating an additional trauma to laryngotracheal cartilages which can be avoided by this kind of approach of managing laryngotracheal injury with primary wound closure without tracheostomy.

MATERIALS AND METHODS:

This prospective study includes 20 cut throat injury patients which was done in Department of Otorhinolaryngology in Coimbatore Medical College Hospital.

Inclusion Criteria:

-Mild to moderate laryngotracheal injury without luminal compromise.
-Patient willing for treatment and regular follow up.

Exclusion Criteria:

-Major/Severe laryngotracheal trauma
-Airway compromise
-Third degree contaminated wound

In these 20 cut throat injuries, majority of the patients had injury in the anterior aspect of neck and cut was the most common type of injury. All patients had skin,soft tissue and mild to moderate laryngotracheal injury without luminal compromise.

In case 1, A 36 years old male presented with alleged history of self inflicted cut throat injury by using knife. On examination, laceration of size 10*5*2cm over right side of neck exposing thyroid cartilage and 2*1 cm breach noted at right side of thyroid cartilage. Primary wound closure done in layers with corrugated rubber drain in subcutaneous plane.

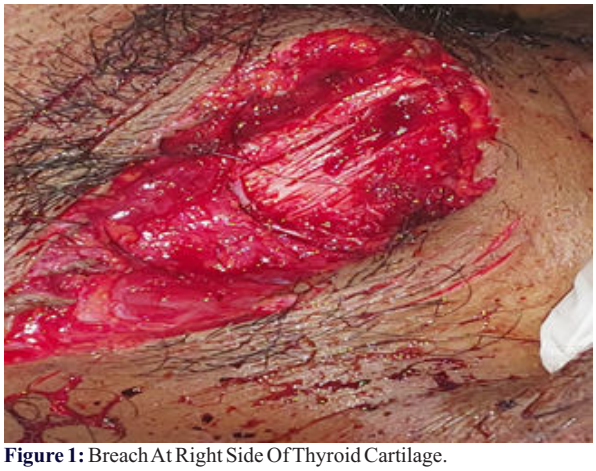

Figure 1: Breach At Right Side Of Thyroid Cartilage.

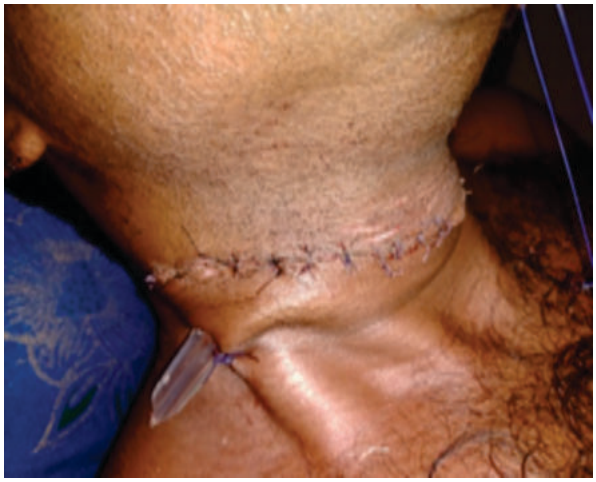

Figure 2: Primary Wound Closure In Layers With Corrugated Rubber Drain Kept In Subcutaneous Plane.

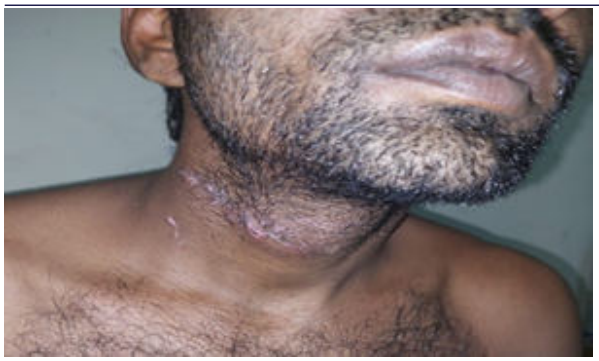

Figure 3 : On Seventh Post Operative Day.

In case 2, A 35 years old male presented with alleged history of self inflicted cut throat injury using knife at his residence. On examination, lacerated wound of size 8*4*2 cm seen over anterior aspect of neck at the level of thyroid cartilage and a breach of 3*2 cm noted at cricothyroid membrane. Primary wound closure done in layers with corrugated rubber drain in subcutaneous plane.

Figure 4 : Breach At The Level Of Cricothyroid Membrane.

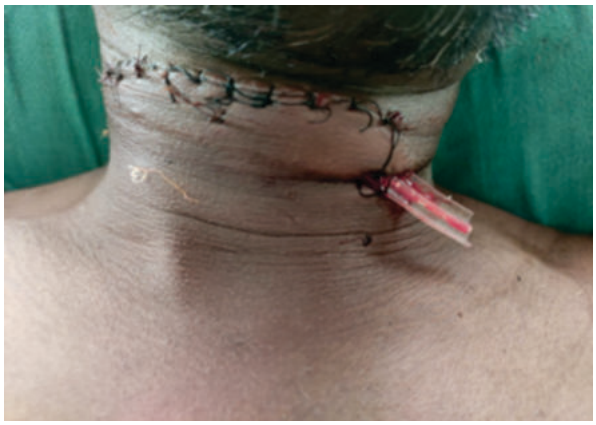

Figure 5 : Primary Wound Closure In Layers With Drain Kept In Subcutaneous Plane.

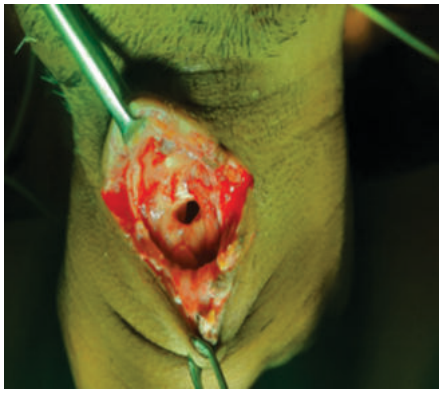

Figure 6 : Breach At The Level Of Thyrohyoid Membrane.

In case 3, a 29 years old male presented with alleged history of self inflicted cut throat injury by using knife over neck. On examination, a lacerated wound of 7*4*2 cm seen over anterior aspect of neck and a breach of 2*2cm seen at thyrohyoid membrane. Primary wound closure done in layers with corrugated rubber drain in subcutaneous plane.

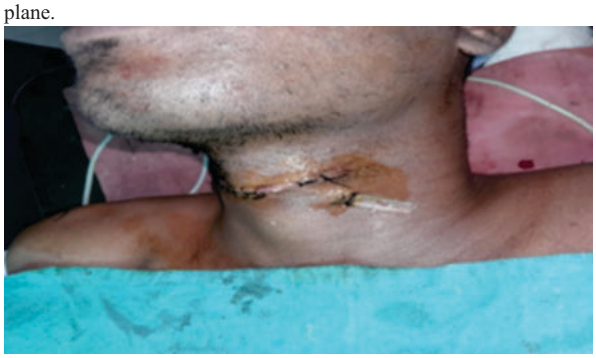

Figure 7 : Primary Wound Closure In Layers With Drain Kept In Subcutaneous Plane.

Table 1: Sex Distribution Of Patients

MALE	14
FEMALE	6

Table 2: Causes Of Cut Injury Neck.

	MALE	FEMALE
SUICIDE	8	3
HOMICIDE	3	2
ACCIDENT	3	1

Like this, all 20 patients had cartilage injury which is mild to moderate laryngotracheal injury or clear cut linear cartilage injury, managed with primary wound closure in layers like muscle,subcutaneous and skin layers with corrugated rubber drain kept in subcutaneous plane and without tracheostomy. Because while doing tracheostomy in such cases, its like creating an additional trauma to already injured laryngotracheal cartilages which can be avoided in these cases.These patients are on regular follow up and have a better outcome.

RESULTS:

A total of 20 patients with cut throat injury were included in our study. Out of which 14 patients were males and 6 patients were females. Age of the patients ranges from 20 to 60 years. By careful assessment of these cut throat injuries, cases with mild to moderate laryngotracheal injuries can be managed with primary wound closure in layers like muscle,subcutaneous and skin layers with corrugated rubber drain kept in subcutaneous layer and without tracheostomy. In addition, tracheostomy can be avoided which is itself an additional injury to already injured laryngotracheal cartilage. Around 20 cases have been managed in this way in our Tertiary care hospital and gave a better outcome on follow up without complications.

DISCUSSION:

Cut throat injuries are incised injuries or those resembling incised injuries in the neck inflicted by sharp objects. This may result from accident, homicide or suicide and are potentially life threatening because of many vital structures in this area.

SCHAEFER CLASSIFICATION OF LARYNGOTRACHEAL TRAUMA

Group 1 - No fracture, minor hematoma, edema or laceration.
Group 2 - Non dispalced fracture, edema or hematoma, minor mucosal injury without exposed cartilage.
Group 3 - Displaced fractures, massive edema or mucosal disruption, exposed cartilage and/or cord immobility.
Group 4 - In addition to two or more fracture lines, skeletal instability or significant anterior commissure trauma.
Group 5 - Complete laryngotracheal seperation.

In our study,a total of 20 patients with cut throat injury were included. Out of which 14 patients were males and 6 patients were females. All patiens had moderate laryngotracheal injury and no vascular, oesophageal or pharyngeal injury. Most of the patients attempted suicide and some patients due to homicide and accidental causes. Males dominated in suicidal and accidental injuries. All patients managed with primary wound closure in layers with drain kept in

subcutaneous plane and without tracheostomy. These patients have regular follow up and have better outcome.

SUMMARY AND CONCLUSION:

Cut throat injuries are potentially life threatening because of many vital structures in this area. Most of the cases presents with laryngeaotracheal injury. Surgical procedures required to manage all patients of cut throat injury like simple closure, laryngotracheal repair and tracheostomy depending on the extent of injury. Cut throat injuries can be managed with primary wound repair in layers with corrugated rubber drain and without tracheostomy in case of mild to moderate laryngotracheal injuries. By this kind of management ,need for tracheostomy care, temporary loss of speech can be avoided. So patients resumes normalcy soon and quality of life can be improved well.

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