



"STUDY OF CLINICAL PROFILE AMONG NECK INJURY PATIENTS AT TERTIARY CARE CENTRE"

Dr. Ashish Kandangire*

Senior Resident at Department of Otorhinolaryngology (E.N.T), Vilasrao Deshmukh government medical College Latur. *Corresponding Author

Dr. Surendra Hirasingji Gawarle

Professor & Head at department of Otorhinolaryngology (E.N.T), Shri Vasantao Naik Government Medical College & Hospital, Yavatmal.

Dr. Rameshwar Tukaram Pawar

Associate Professor at department of Otorhinolaryngology (E.N.T), Shri Vasantao Naik Government Medical College & Hospital, Yavatmal.

ABSTRACT

Neck injuries are critical and potentially life-threatening due to the presence of vital structures such as blood vessels, nerves, and organs. This study, conducted at a tertiary care center in central India, aimed to analyze the clinical profile, causes, types, and management of neck injuries. A cross-sectional study was conducted over two years (December 2022 to December 2024) with 104 patients meeting inclusion criteria.

Key Findings:

1. Demographics :
 - Most affected age group: 15-25 years (39.4%), followed by 26-35 years (38.5%).
 - Male predominance: 86.5% males and 13.5% females.
 - Majority from rural areas (61.5%) and lower socioeconomic class (50%).
2. Predisposing Factors:
 - Poor socioeconomic status (63.5%), alcoholism (34.6%), illiteracy (28.8%), and mental disorders (17.3%).
3. Causes of Injury:
 - Assault (46.2%), road traffic accidents (34.6%), and self-inflicted injuries (19.2%).
4. Clinical Features:
 - Common symptoms: bleeding (44.2%), respiratory distress (23.1%), difficulty swallowing (13.5%), voice changes (11.5%), and shock (11.5%).
5. Types of Injuries:
 - Incised wounds (45.2%), lacerated wounds (41.3%), abrasions (9.6%), and punctured wounds (3.8%).
6. Zones of Injury:
 - Zone 2 was most commonly affected (67.3%), followed by Zone 1 (19.2%) and Zone 3 (13.5%).
7. Structures Injured:
 - Thyroid cartilage (17.82%), trachea (12.5%), vocal cord palsy (11.53%), thyroid gland (10.89%), esophagus (1.9%), and submandibular gland (7.6%).
8. Management:
 - Simple wound suturing (40.4%), wound exploration and suturing (37.5%), wound cleaning and dressing (11.5%), and tracheostomy (9.6%).
9. Hospital Stay:
 - Most patients required 5 days (42.3%) or 7 days (38.5%) of hospitalization, while 9.5% did not require hospital admission.

Conclusion:

Neck injuries demand immediate and precise management due to their complexity and potential fatality. Early intervention, proper diagnostic evaluation, and surgical management are crucial to saving lives and reducing morbidity. Socioeconomic improvements and preventive measures can help reduce the incidence of such injuries.

KEYWORDS :

INTRODUCTION:

Neck injuries are potentially dangerous, if not treated in time may lead to death of the patient due to asphyxia and haemorrhage. Neck is unprotected anatomic region it is a common site of injuries that are potentially dangerous and require immediate management. Neck injuries may be lacerated or incised or incised looking or penetrating. Penetrating trauma into neck involved by sharp object through skin and violating the platysma layer of the neck. These injuries can be with stabbing, gunshot wounds and puncture injuries. The causes of neck injuries can be suicidal, homicidal and accidental. Neck contains important vital structures such as blood vessels, nerves and wind pipe, so any damage to this structure invites fatality as death is inevitable. Over all neck injuries account for 5% to 10% approximately of all traumatic injuries with multiple structures being injured in 30% of patients.

MATERIALS AND METHODS:

Study Design: A cross sectional study **Study Settings-**

Department of otorhinolaryngology at tertiary care hospital
Study population: Patients coming to casualty with neck injuries.

Sample Size- minimum of 104 patients Prevalence of neck injuries = 7% (0.07) Desired Precision: +/- 5% (0.05)

Sample size $N = 4 \times p \times q / L^2 = 4 \times 7 \times 100 - 7 / 25 = 4 \times 7 \times 93 / 25 = 104$ patients

RESULT:

In this study of 104 neck injury patients, the majority were young adults aged 15-25 years (39.4%) with a marked male predominance (86.5%). Most patients belonged to rural areas (61.5%) and lower socioeconomic groups (50%). Poor socioeconomic status (63.5%) and alcohol use (34.4%) were the most common predisposing factors. Assault was the leading cause of injury (46.2%), followed by road traffic accidents (34.6%) and self-inflicted wounds (19.2%). Clinically, bleeding (44.2%) and respiratory distress (23.1%) were the most frequent presentations. Incised wounds (45.2%)

and lacerated wounds (41.3%) were the predominant injury types, with Zone II involvement in 67.3% of cases. The thyroid cartilage (17.82%), trachea (12.5%), and vocal cords (11.53%) were the most commonly injured structures. Management primarily included simple wound suturing (40.4%) and wound exploration with suturing (37.5%), while 12.5% required tracheostomy. Most patients required short hospital stays of 5–7 days, and overall outcomes were favorable.

DISCUSSION:

The present study analyzed the clinical profile of 104 patients with neck injuries presenting to a tertiary care centre. Consistent with previous literature, neck trauma was found predominantly among young adults, with a male preponderance. This demographic trend reflects increased exposure to interpersonal violence, occupational hazards, and road traffic activities among males in this age group, as also reported by Bhattacharjee et al., Modi et al., and Manilal Aich et al.

Most cases originated from rural and lower socioeconomic settings, aligning with earlier studies that highlight poverty, limited education, and inadequate safety awareness as significant contributing factors. Poor socioeconomic status and alcohol consumption emerged as leading predisposing factors. This strengthens the evidence that socioeconomic vulnerabilities, substance abuse, and psychosocial factors play a central role in the occurrence of neck trauma.

Assault was the most common cause of injury in this study, followed by road traffic accidents and self-inflicted injuries. These findings are comparable to regional and global studies where interpersonal conflicts and vehicular mishaps are leading contributors to cervical trauma. Clinically, hemorrhage was the most frequent presenting symptom, followed by respiratory distress and dysphagia, underscoring the importance of rapid airway and hemodynamic assessment due to the concentration of vital structures in the neck.

Incised and lacerated wounds were predominant, reflecting the mechanisms of assault and accidents. Zone II was the most commonly affected anatomical region, consistent with published evidence indicating its structural vulnerability and accessibility. Among injured structures, the thyroid cartilage, trachea, and laryngeal components were most frequently involved, echoing similar injury patterns noted in prior studies. Management strategies in this study were largely effective, with most patients treated successfully through simple wound suturing or wound exploration and repair. A minority required tracheostomy for airway compromise. The generally short duration of hospital stay highlights the benefit of early intervention and appropriate trauma care protocols. Comparison with previous literature demonstrated similar outcomes, reaffirming that prompt assessment using ATLS principles and timely surgical decision-making remain key determinants of survival.

Overall, the discussion highlights that neck injuries are strongly associated with social and behavioral determinants such as low socioeconomic status, alcohol abuse, and interpersonal violence. Early recognition, systematic evaluation, and structured management significantly reduce morbidity and mortality. The findings reinforce the need for targeted preventive measures, including public education, improved socioeconomic conditions, and strengthened trauma care systems to reduce the burden of neck injuries in vulnerable population.

CONCLUSION:

All Neck injuries are dangerous and require emergency treatment because of the presence of important vessels, nerves and organs in the neck. In detail knowledge of the

anatomy of neck, clinical assessment and diagnostic and therapeutic interventions are necessary for appropriate management. Management of laryngeal injuries depends on their severity. In minor injuries, simple repair without tracheostomy is sufficient. Repair of major injuries (large mucosal lacerations, displaced fractures of larynx, laryngeal instability, vocal cord injuries) may require thyrotomy with reduction of displaced fractures or tracheostomy. Major injuries tend to have worse voice results.

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