



**CASE REPORT – PENETRATING NECK INJURY WITH ISOLATED ESOPHAGEAL PERFORATION**

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**ABSTRACT** Penetrating neck trauma is an important area of trauma care that has undergone evolution in the recent past. Therapy has evolved from no treatment (before effective anesthesia and instrumentation), to non operative management, to routine exploration, to selective exploration and adjunctive invasive or noninvasive assessment. Traumatic esophageal perforations are infrequent. They represent a surgical dilemma for surgeons, especially if diagnosis is made late.

**KEYWORDS** : Penetrating neck injury, esophageal perforation, primary repair.

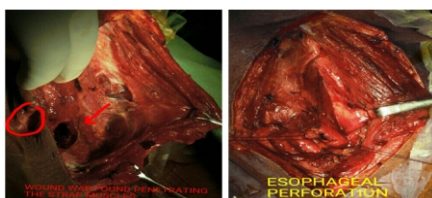
**CASE REPORT:**

A 25 year old gentleman was referred to our emergency department with a history of penetrating injury to the neck while cutting a tree with an electric saw. On admission, his vital parameters were stable. He sustained a deep lacerated wound of size 5x4x5cm in the left side of the neck (Zone I). There was hematoma around with saliva draining from the wound. There was no air leak along the wound and there was no obvious subcutaneous emphysema.



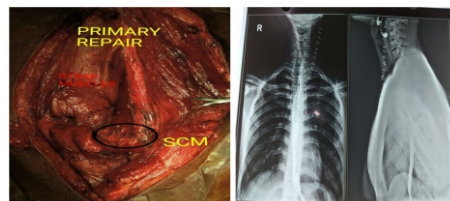
**Fig 1- Penetrating injury along the Left side of neck with hematoma and saliva around the wound.**

He was immediately resuscitated and CT neck with thorax was taken which showed retropharyngeal air shadows with no evidence of tracheal injury. On exploration, we were surprised to see the trajectory of the penetrating wound which was oblique injuring the strap muscles and the esophagus without disturbing the carotid, trachea or thyroid. Since the patient presented to us within hours after the injury, primary repair of the esophagus was done with single layer Polyglactin 910 sutures. Feeding jejunostomy was done. The patient recovered very well and there was no stricture or stenosis of the esophagus in the follow up endoscopy.



**Fig 2 and 3- Penetrating Wound Via Strap Muscles with**

**Esophageal Perforation**



**Fig 4 and 5 -Primary repair done (encircled in black) with early post op Barium swallow showing intact anastomosis**



**Fig 6 – Healed esophageal perforation without stricture in follow up endoscopy (encircled in black).**

**DISCUSSION:**

Penetrating neck trauma involves a missile or sharp object penetrating the skin and violating the platysma layer of the neck. This includes gunshot wounds, stab or puncture wounds, and impalement injuries [1, 2, and 3]. Tight fascial compartments of neck structures may limit external hemorrhage from vascular injuries, minimizing the chance of exsanguination. However, these tight fascial boundaries may increase the risk of airway compromise because the airway is relatively mobile and compressible by an expanding hematoma.

Isolated traumatic esophageal perforations are very rare. Diagnosis of esophageal rupture is missed if the surgeon overlooks this possibility. It is necessary to have a high index of suspicion and to proceed accordingly with the pertinent studies to confirm or rule out the presence of a perforation. Frequently, patients do present with injuries that are more obvious and urgent, and these can

distract the surgeon's attention. For penetrating trauma, it is very important to establish the trajectory of missile/injury which was well appreciated in our case. In stable patients, a computed tomography scan is particularly helpful as it can delineate the trajectory of the injury and suggest the best diagnostic approach [4, 5]. Most surgeons agree that delayed diagnosis and treatment increase morbidity and mortality [6–9].

In the early diagnosed patients, primary repair with single layer interrupted sutures is the best option. None of the early treated patients presented with complications, and there was no mortality. These statements are consistent with what has been reported in the medical literature for early treatment of esophageal perforation even in the presence of multiple trauma injuries or when patients are hemodynamically unstable [7-9].

It is true that mortality from traumatic perforations of the esophagus has diminished since the 1990s. The drop in mortality rate is probably due to a more aggressive diagnostic and therapeutic approach by surgeons, advances in critical care, better antibiotics and parenteral nutrition [10, 11]. Morbidity has not changed much for late perforations. These patients are subjected to multiple procedures accompanied with long periods of stay in the ICU and the surgical wards with elevated hospital expenditure.

#### CONCLUSION:

To conclude, every effort should be made to diagnose esophageal traumatic perforations as early as possible, and the treatment should be expeditious and definitive. Once a delayed diagnosis is made, surgeons must be committed to approach this problem aggressively to avoid a chronic and debilitating condition.

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