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Anaesthetic Management in a Case of Transected Laryngopharynx

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Abstract: ***Managing a case of transected laryngo-pharynx demands emergent intubation, resuscitation and surgical correction. Anaesthesia techniques include securing a stable airway, reducing risk of aspiration and facilitation of surgical repair by maintaining hemodynamic stability, minimizing intraoperative bleed and pain management.***

Keywords: Airway, transection, larynx, cut throat, anaesthesia, tracheostomy

1. Introduction

Transected laryngopharynx is a rare and critical medical emergency possessing significant challenges. The most common site of tracheal transaction is the junction of cricoid with trachea due to weak connective tissue in this area. [1] These injuries require multidisciplinary approach with involvement of anaesthesiologist, psychiatrist and otolaryngologist working together. [2] Though the initial management may look straight forward with placement of tracheal or tracheostomy tube and surgical repair of transected tissue, complications due to aspiration of blood, vomiting, major vessel injury, and hypoxia often complicate the scenario. [3]

2. Case Report

A 25 year old patient was brought to casualty with a self-inflicted neck injury by a sharp knife. Patient was conscious and alert, P-112 bpm, BP-100/70mmHg, RR-38b/min, SpO2-78% on room air. On local examination, a horizontal wound in anterior neck of size 10 cm× 3 cm exposing larynx and strap muscles superior to the thyroid cartilage, was seen. Air entry was bilaterally reduced with no other systemic abnormalities.

Figure 1: Patient intubated from the transected wound with endotracheal tube

Wide bore canula was secured and intravenous fluids were started and patient was oxygenated with 6 L/min from the open wound. We planned to secure the airway by intubating the patient through transected wound as the laryngoscopy was difficult due to oedema, bleeding and distorted anatomy. Pt was given Inj. Midazolam 1 mg i.v, Inj. Glycopyrrolate 0.2 mg i. v and Inj. Etomidate 20mg i.v. Smaller sized cuffed endotracheal tube of internal diameter 6 was inserted under vision through external wound. Bilateral air entry checked and tube was fixed at 14 cm with dynaplast and stabilised with hands. Patient was immediately taken to OT for tracheostomy with exploration of neck laceration & laryngeal repair.

Figure 2: Airway was secured with traheostomy before exploration of neck laceration

Anaesthesia was induced with Inj. Ketamine 50mg i. v and Inj. Vecuronium 5mg iv. Fentanyl was used for analgesia. Patient was maintained on O2, air, sevoflurane & vecuronium boluses. The ETT was stabilised with hands until tracheostomy was done. Laceration of the neck was repaired. Major blood vessels and nerves were intact. Surgery lasted for 2 hours. Intraoperative blood loss was approx.200 ml. Pt was given 1 pint PCV & 1000 ml Crystalloids. Vitals were stable throughout the procedure. Postoperatively, the patient was shifted to the ICU and mechanical ventilation was continued for 12 hours postoperatively after which patient was weaned off the ventilator. There were no postoperative complications and patient was discharged after 15 days of surgery.

Figure 3: Tracheostomised and neck laceration repaired

3. Discussion

Early airway management is crucial in a transected larynx. Laryngoscopy is challenging due to bleeding, oedema and distorted airway anatomy. We considered intubating the patient through the open wound with a smaller sized cuffed endotracheal tube to avoid further laryngeal injury with a bigger sized tube. Stabilising tube with hands can be required due to risk of slippage or dislodgement due to active bleed. Shifting the patient from the casualty to operating room is swift and could lead to missing important history or physical examination. Prompt thinking, emergent intubation, resuscitation and surgical correction led to a faster improvement of hemodynamic parameters and early weaning from ventilatory support.

4. Conclusion

Timely intervention in securing airway prevented further complications such as aspiration of blood and hypoxemia. Challenges in the management ranges from airway management to the control of ongoing blood loss and subsequent haemorrhagic shock.

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