Case Report

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Rarest Complication of Thyroid Surgery-Esophagus Injury Repair with Sternocleidomastoid Flap: A Case Report with Review

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Abstract

The most common complications after thyroidectomy areinjury to the recurrent laryngeal nerve and parathyroid glands. Cervical esophagus perforation is an exceptionally rare complication after thyroidectomy; it can usually be resolved by conservative care. The most common cause of cervical esophagus is anterior spinal surgeries and there are reports of closure using muscle flaps esp. erector colli. In this report we are sharing our experience of cervical esophagus transection with tissue loss following thyroidectomy and presenting in the acute phase. Exploration was done and repair of esophagus by mobilization and reinforcing with sternocleidomastoid muscle from right side. The defect healed well with no stricture for a follow up period of 1 yr.

Keywords: Thyroidectomy Complications; Esophageal Perforation; Esophageal Transection; Sternocleidomastoid Muscle Flap.

Introduction

Thyroidectomy is a common surgery without many complications. The common complications are recurrent laryngeal nerve injury, parathyroid deficiency, and rarely injury to trachea due to adhesions. Usually the esophagus is not coming in the field and no injury is possible. We came across a rare situation where thyroidectomy was associated with a major esophageal injury and leakage of content through the drain reported in 24 hrs of surgery.

Case Report

32 yrs. old female patient presented with solitary nodule of thyroid of the right lobe and FNAC was reported as Multinodular goiter and patient underwent total thyroidectomy in a hospital. The drain was placed and the drainage was minimal. On the 1st postoperative day the fluid takenorally by the patient was drained through the drainage tube. Then suspected esophageal injury and referred to us.

On examination the drain was draining saliva and the fluids taken orally. X-ray of neck and chest followed by CT scan was done to rule out pneumomediastinum. There was no collection or features of inflammation down in the mediastinum.

Exploration of the wound done on the 1st postoperative day through the same incision and it was found that the esophagus was totally divided and a portion was missing. Nasogastric tube was seen through the wound.

Suction and cleaning of the wound done and esophagus mobilized from both ends and anastomosed. The inflamed area was covered with rt. Sternocleidomastoid muscle flap and it is fixed to the prevertebral fascia and wrapped aroundthe anastomotic site.

The patient was put on nasogastric tube feed for 3 wks. Then a barium fluoroscopy done andfound that

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there was no leak or stricture.Oral fluid was started first and after 24 hrs. solid or semisolid food was also given. The patient was followed up for 12 months and no stenosis or stricture reported.

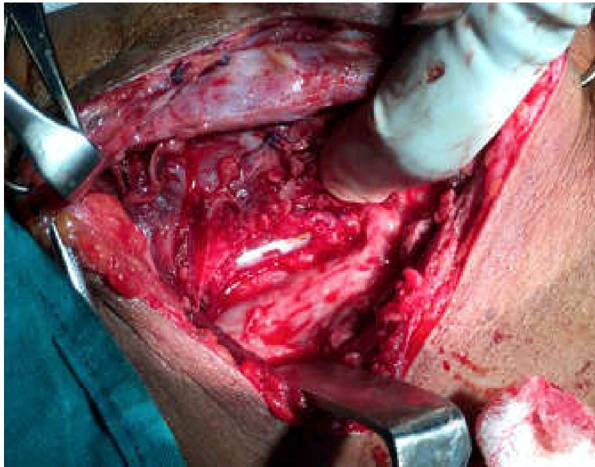

Fig. 1: Nasotracheal tube through the divided esophagus

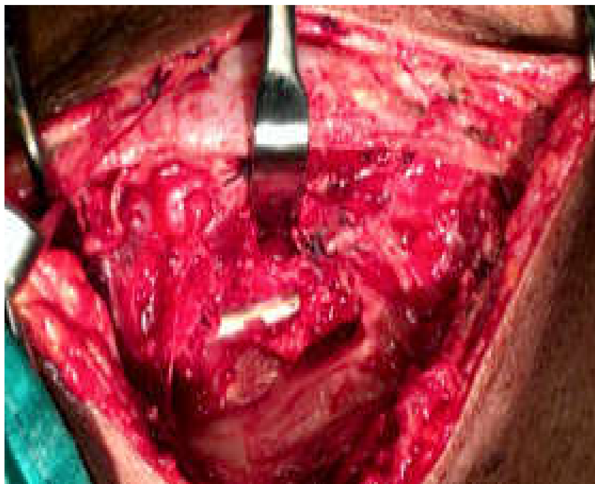

Fig. 2: Mobilized esophagus

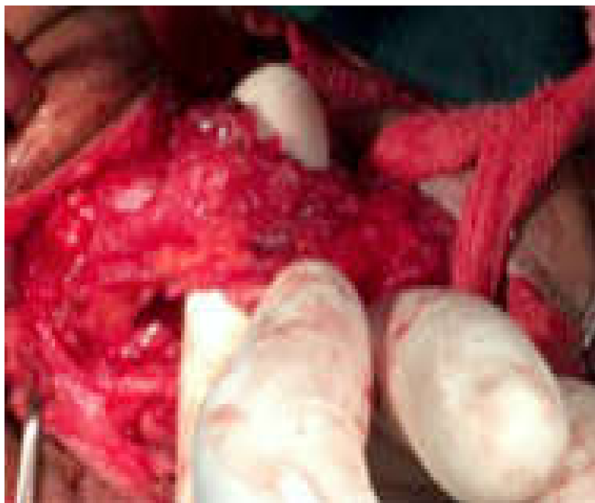

Fig. 3: Sternocleidomastoid muscle flap [fig a & b]

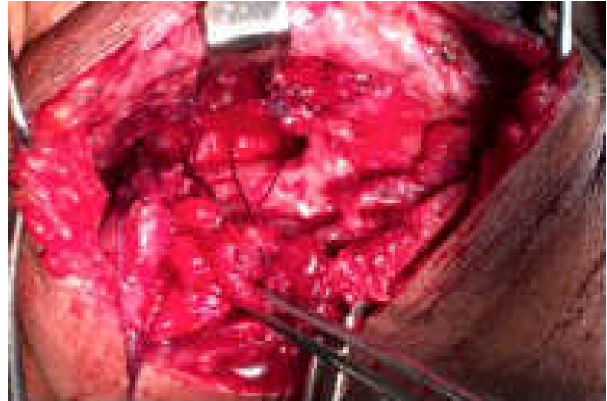

Fig. 4: The sternomastoid is fixed to the prevertebral fascia and wrapped around the anastomosis

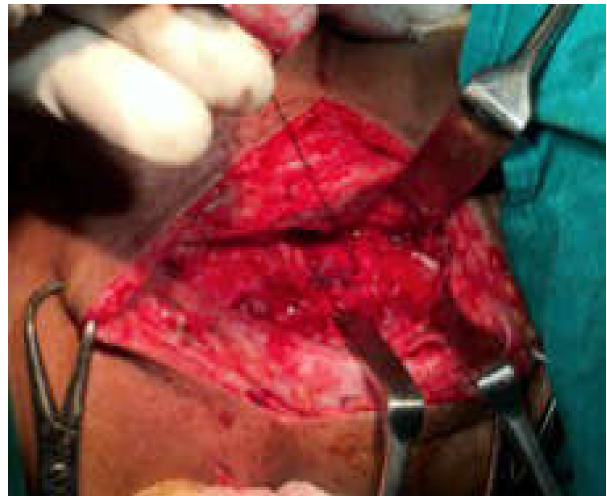

Fig. 5: Final stage of reconstruction

Discussion

Many cases of recurrent laryngeal nerve injury and hypoparathyroidism were reported in thyroidectomies. But injury to trachea and esophagus are very rare.

The esophageal injury were reported were simple tear or opening and preoperative repair with silk were done and they healwell [1,2,3]. There were cases reported as late presentation of esophageal injury with stricture. Cervical esophageal injuries are more common with anterior spinal surgeries [4,5]. They are either repaired or cover with sternocleidomastoid or cervical colli muscleflaps [4].

In our patient the transection of esophagus was happened with loss of some portion. So the esophagus mobilized from both ends and approximated in 2 layers i.e., the mucosa which was edematous and the muscular coat. To avoid leak and to improve the healing the anastomotic area is reinforced with sternocleidomastoid muscle, which

was taken from RT side and fixed to prevertebral fascia. It took three weeks to heal the flap to settle as in a normal case of flap surgery and the leak stopped.

Follow up after 12 months didn't give any history of difficulty in swallowing or evidence of stricture. Barium swallow was done and it was normal.

The sternocleidomastoid muscle is having two heads at the sternoclavicular area and the lower portion is tendinous. The upper part is muscular with multiple blood supply. A single axial blood flow is not there in sternocleidomastoid and so mobilization should be limited and it is detached from the sternoclavicular end and fixed to the prevertebralfascia towards opposite side. Esophagus is having very less blood flow in the neck area and too the posterior part, so that leak is more due to poor healing.

Conclusion

A rare complication thyroidectomy is discussed with method to reconstruct the anastomosis by reinforcing with a muscle flap. The esophageal injuries are very rare and only small injuries are reported which are treated conservatively. There are reports of such cases in literature but total transection is rare and hence we are presenting this article.

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