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# Unusual Stridor Following Thyroid Surgery

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**Abstract:** ***The complications following thyroid surgery are rare due to better preoperative preparations and proper surgical techniques; however, complications like hematoma formation and recurrent laryngeal nerve injury are known to cause airway obstruction and can be fatal. We report a case of a 35 year old euthyroid patient, with preoperative diagnosis of multinodular goiter thyroid who underwent total thyroidectomy. In this patient both intra operative and immediate post- operative period was uneventful, but the patient developed airway obstruction after one hour of thyroidectomy, to maintain the airway patient shifted to operation room, and re-exploration of the wound was performed but no abnormalities were found. As patient was not in distress maintaining saturations around 90% on room air, bronchoscopy under intravenous midazolam sedation showed paradoxical vocal cords movement and web covering anterior part of subglottis. patient was put on steroids and calcium gluconate for four days in ICU, improvement in symptoms observed and transferred to surgical ward.***

**Keywords:** thyroidectomy , stridor, laryngeal web

## 1. Introduction

The complications following thyroid surgery are rare due to better preoperative preparations and proper surgical techniques; however, complications like hematoma formation and recurrent laryngeal nerve injury are known to cause airway obstruction and can be fatal

## 2. Case Report

A 35yr-old female with multinodular goitre was posted for total thyroidectomy, Preanaesthetic check up was done and all the necessary investigations were within normal limits, The patient was scheduled for surgery. Nil per oral status was maintained, and 0.25 mg tablet Alprazolam was given night before surgery

In the operation room (monitors used: ECG, SpO2, NIBP, EtCO2)

a) 4 mg of Inj. Ondansetron,
b) 1 mg of Inj. Midazolam,
c) 0.2 mg of Inj.Glycopyrollate
d) 100 mcg fentanyl IV slowly

- Pre-oxygenated for 3 minutes
- 250 mg of Inj.Thiopentone IV, and with 5 mg of Inj. Vecuronium IV Endotracheal intubation was attempted with 7.5mm internal diameter (ID), but it could not be negotiated beyond the vocal cords. Subsequent intubation attempts with 7.0 mm, cuffed endotracheal tube (ETT) but resisitence was noted when attempts were made to advance the tube never the less, the cuff was inflated until the leak disappeared with 6cc of air
- Maintenance done with Vecuronium 1mg top ups as required, N2O:O2 = 4:3 and Sevoflurane (0.25–0.5%).
- Intra –operative period was uneventful with minimal blood loss.
- Reversal done with Neostigmine 2.5 mg + Glycvopyrollate 0.4 mg IV
- Cuff leak test was positive -no evidence of tracheomalacia and was extubated successfully.
- Postextubation, direct laryngoscopy revealed the cord movements and appearance were normal.
- After an hour in the recovery room, patient had an inspiratory stridor, tachypnea, tachycardia, flaring of alar nasae, restlessness and with gradual fall in the saturation to high 80's to low 90's
- There was no local swelling at the surgical site,
- We tried to ventilate the patient with 100% oxygen via bains circute by Larsons jaw thrust maneuver, direct laryngoscopy revealed normal cord movements, IV hydrocortisone 100mg and injection deriphylline 50mg given observed for few minutes. Saturations improved to 92% with 4lit of oxygen support, and patient was comfortable in sitting position tachypnea decreased so patient was shifted to ICU for observation, in 1$^{st}$ POD patient still had stridor so she was scheduled for bronchscopy under mild sedation which reveled a laryngeal web and subglottic stenosis through which we could not pass the bronchscopy further. Patient was managed conservatively with steroids and calcium gluconate for 4days, stridor was subsided gradually and patient was shifted to ward and follow ed up for one month through calls.

## 3. Discussion

Laryngeal web consist of thin trasparent or thick fibrous membrane and may be congenital or acquired;

- CONGENITAL WEB symptomatic in infancy and childhood as a result of incomplete recanalization of the primary laryngeal airway.
- Laryngeal web: located at the level of vocal cords, remainder being either sub or supraglottic. The majority of glottic web lie anteriorly between the cords only 1 or 2% are posteriorly located. Diagnosed clinically by symptoms of stridor, weak cry feeding problems. However endoscopic visualization is essential for its correct diagnosis.
- Acquired webs / scars –neack trauma, injury or inflammation of mucous membrane and sub mucosal tissues
- Laryngotracheal scars – due to iatrogenic intervention due to long term endotracheal intubation
- Regardless of etiology laryngeal webs and scars may be slightly and asymptomatic and therefore present as coincidental findings. They may cause respiratory difficulty and abnormalities in phonation may require

corrective surgeries. Dilation incision or CO2 laser excision of thin membrane web. Fibrotic webs usually require the use of TEFLON KEEL or STENT

## 4. Conclusion

Postoperative stridor in patients after general anaesthesia not only due to vocal cord palsy it can be due to unrecognized incidental laryngeal web with subglottic stenosis

## References

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