## Transoral Laser Microresection of Thyroglossal Duct Cyst: A Novel Surgical Approach

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### Abstract

**Background:** Thyroglossal duct cysts (TGDCs) may present in both children and adults from the foramen cecum to the suprasternal notch. Intralingual TGDCs are rare. Typically, surgical intervention involves a Sistrunk procedure. We present a novel surgical approach in an adult patient with a lingual TGDC via transoral laser microresection.

**Study design:** Case report and review of the current literature.

**Objective:** To report a case of an intralingual TGDC surgically treated by transoral laser microsurgical excision in an adult.

**Methods:** A healthy 38 year old female presented with an incidentally found mass in the midline base of tongue. She denied any history of dysphagia, odynophagia, infections, or difficulty breathing. Imaging was consistent with a lingual TGDC.

**Results:** The cyst was endoscopically removed transorally with the aid of a microscope and CO2 laser. To our knowledge, this is the only reported adult case of a lingual TGDC excised transorally.

### Case Report

- Healthy 38 year old female with cystic midline base of tongue mass found incidentally on cervical MRI
- Sense of fullness in anterior neck since childhood; no dysphagia, odynophagia, globus, previous infections, or difficulty breathing
- On exam: no palpable lesion in neck or base of tongue; on flexible exam, tongue was normal without fullness or discernable lesion
- CT scan: 17mmx19mmx15mm cystic lesion superior to hyoid, splaying the genioglossus and intrinsic tongue musculature
- Dissection of lesion from surrounding musculature was performed with microforceps and CO2 laser
- Lesion was removed without rupture; musculature and mucosa reapproximated with 3.0 Vicryl sutures

### Discussion

- The thyroid gland begins as a foregut diverticulum at the foramen cecum and descends caudally into the neck anterior, posterior, or within the hyoid bone
- An epithelial tract is left behind which normally resorbs between 6th and 8th embryologic week
- Lingual TGDCs arise when there is a persistence of the most cranial portion of the tract
- 0.6-8.5%1,2,5 of TGDCs are the lingual variant
- In children, presentation may be an incidental finding on imaging, obstructive sleep apnea, cyanosis, or possible death from obstruction
- In adults, presentation has been described as an incidental finding on imaging or lingual swelling
- Management of lingual TGDCs in children is varied: reports of transcervical excision via a Sistrunk procedure, transoral excision, and transoral marsupialization.
- Largest series from Burkart et al.: 16 lingual TGDCs in children treated with microsurgical excision using electrocautery or microdebridement with electrocautery ablation of base of lesion. No recurrences with median follow up 3.7 years.
- Sameer et al. described 3 cases in which the lingual TGDCs were excised transorally with electrocautery with an additional Sistrunk procedure if the lesion was in close proximity to the hyoid on imaging or during surgery.
- To our knowledge, this is the only reported adult case of a lingual TGDC excised transorally.
- Laryngoscopes, endoscopic instruments, and transoral surgical techniques used for transoral cancer resection can be utilized to excise these lesions safely.

### Conclusions

- Based on the location of a TGDC within the thyroglossal tract, a transoral approach may be feasible and avoids the morbidity and cosmetic impact of an external approach
- Excision of a lingual TGDC in an adult patient is feasible and safe utilizing transoral microsurgical techniques
- Recurrence rates with the transoral approach need to be monitored and reported in the future

### References

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