Case Report

Management of Lingual Thyroid by Suprahyoid Approach

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Abstract

Management of lingual thyroid, a very rare anomaly is often associated with risks of incomplete excision and bleeding by the common intraoral approach. The suprahyoid approach of excision provides clear visualization for complete removal and efficient control of bleeding. After reviewing the literature, we report a case of Lingual thyroid with obstruction managed by suprahyoid approach, a safer technique.

Key words: Lingual thyroid, Surgical techniques, Suprahyoid approach.

Introduction

Embryological complete failure of migration of the median anlage from its origin in the baseof the pharynx resulting in thyroid tissue located at the base of the tongue between the epiglottis and the circumvallate papillae is called as Lingual thyroid[1]. Lingual thyroid is the most frequent ectopic location of thyroid gland. Prevalence rates vary from 1 in 100,000 to 1 in 300,000. Review of literature reveals that only about 400 symptomatic cases have been reported so far. Here we report a case of lingual thyroid excised by suprahyoid approach which is a safer approach.

Case History

A ten year old female child presented with history of severe dysphagia to solid foods. No history of any other significant symptoms of hypothyroidism. Physical examination revealed a midline mass at the base of the tongue (Fig1). Her Ultrasonogram neck revealed non-visualisation of thyroid in its normal anatomical location. TSH (Thyroid Stimulating Hormone) levels were elevated at 8.72 uIU/ml (Reference range: 0.32-6.82uIU/ml). FT4 (Free Thyroxine4) was borderline low at 0.9 ng/dl (Reference range: 0.8- 2ng/ Other biochemical parameters were non-contributory. A radionuclide scan was carried out using I131 suggesting an ectopic thyroid tissue corresponding to swelling in the posterior third of tongue and abse thyroid tissue in its normal location (Fig2). She wa diagnosed as a case of Lingual thyroid with hypothyroidism and placed on L-Thyroxine and brough euthyroid state. She was taken up for complete surgical excision of lingual thyroid by suprahyoid midline approach in view of its safety under general anesthesia. By transverse skin crease incision, skin and subplatysmal flaps raised and dissection continued till hyoid bone. Sub periosteal elevation of muscles attached to hyoid bone was done and suprahyoid muscles split and oral cavity was entered. Using a finger in oral cavity, the mass was pushed through the suprahyoid incision and removed in toto (Fig3). Oral mucosa closed meticulously, muscles repositioned and wound closed. Ryle's tube was placed and retained for 48 hours. Oral feeds started after 2 days and replacement dose of L thyroxine started immediately in postoperative period. Histopathology revealed a nonencapsulated collection of mature thyroid follicles. Patient was followed up for two years needing dosage adjustment of L thyroxine with no wound or surgery related complications.

Fig. 1: Preop picture showing a midline mass in the base of tongue

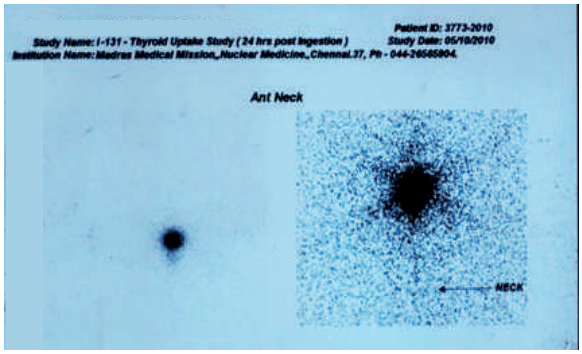

Fig. 2: A radionuclide I 131 scan showing an ectopic thyroid tissue corresponding to the swelling in the posterior third of tongue and absent thyroid tissue in its normal location

Fig. 3: Intraoperative picture showing Lingual thyroid mass (⇓)pushed into suprahyoid space using a finger guide in oral cavity(⇐). (⇑- hyoid bone)

Discussion

Lingual thyroid is defined as the presence of thyroid tissue in the midline at the base of the tongue anywhere between the circumvallate papllae and the epiglottis. The condition arises from the embryonic failure of normal thyroid tissue to descend from the foramen cecum area of the tongue base through the lower neck, presenting as a lobular midline mass in the mucosal surface of the tongue base[2]. Larger lesions can interfere with swallowing and breathing, but most patients are unaware of the mass at the time of diagnosis. The ectopic thyroid secretions are not adequate to maintain a euthyroid state. Upto 70% of patients with lingual thyroid have hypothyroidism and 10% suffer from cretinism[3]. Diagnosis is established by a justifiably strict criterion which includes either histologic confirmation of the lesion or the development of hypothyroidism after removal[4]. Now as an alternative diagnostic test the concentration of I131 by the tumor and its absence in neck is used[5]. At least one of these criteria must be met before a tumor may be classified as lingual thyroid. Levothyroxine therapy corrects hypothyroidism and also induces shrinkage of lingual thyroid[6]. Occassionally large blood vessels are present on the surface of lingual thyroid tissue, predisposing to ulceration or hemorrhage. When symptoms of bleeding or obstruction appear, therapy by means of surgery or radioiodine ablation is warranted. Surgical excision is an effective treatment for lingual thyroid in patients with obstructive symptoms. The surgical treatment approachesof the lingual thyroid described are transoral, transmandibular- translingual, Lateral pharyngotomy and suprahyoid approaches[7].

Transoral approach is the commonest but with higher complications, inadequate exposure leading to inadequate removal and bleeding being the most common. Trans mandibular/translingual and lateral pharyngotomy approaches are more morbid and has restricted indication[8]. Suprahyoid approach is a safer alternative inspite of external scar and extensive dissection. With the surgical knowledge of neck dissection this approach makes complete excision easier which in turn prevents recurrence and bleeding. In our patient once the diagnosis of Lingual thyroid was established and after bringing her to euthyroid state, complete excision of the lingual thyroid was done by suprahyoid approach with L thyroxine supplementation and two years follow up.

References

1) Ulrich, Henry F. Lingual thyroid.Ann. Surg.1932;95(4):503-7.

2) Williams JD, Sclafani AP, Slupchinskij O, Douge C. Evaluation and management of the lingual thyroid gland. Ann Otol Rhinol Laryngol 1996;105:312-6.

3) Neinas FW, Gorman CA, Devine KD, Woolner LB. Lingual thyroid: Clinical characteristics of 15 cases. Ann Intern Med 1973;79:205.

4) Montgomery ML. Lingual thyroid: A comprehensive review. West J Surg 1935;43:661, 44:54,122,189,238,301,373,442.

5) Kansal P, Sakati N, Rifai A, Woodhouse N. Lingual thyroid. Diagnosis and treatment. Arch Intern Med. 1987;147(11):2046-48.

6) Elprana D, Manni JJ, Smals AG. Lingual thyroid.ORL J Otorhinolaryngol Relat Spec 1984;46:147-52.

7) Grant E Ward, James RCantrell,Warde B. Allan. The surgical treatment of lingual thyroid. Ann. Surg. 1954;139(5):536-44.

8) Vairaktaris E, Semergidis T, Christopoulou P, Papadogeorgakis N, Martis C. Lingual thyroid: A new surgical approach—A case report. J Craniomaxillofac Surg 1994;22:307.