

Case report

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Dorsal midline tongue masses in children

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ABSTRACT

Tongue masses are uncommon, and in children are usually due to congenital anomalies. Causes also include lingual thyroid, vascular lesions, and various cysts. We present a series of cases where children presented with a mass at the foramen caecum on the dorsum of the tongue in the midline. In each case, the diagnosis was different. Regardless of the child's presentation, we believe detailed imaging to be essential for appropriate diagnosis and management. If the lesion is symptomatic or there is diagnostic uncertainty then excision for histopathology should be undertaken without delay.

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1. Introduction

Tongue masses are uncommon, and in children they are usually due to congenital anomalies [1]. The tongue forms from the pharyngeal arches, primarily within the fifth week of development. There is medial fusion of the first and second pharyngeal arches, and a medial protuberance, the tuberculum impar, appears on the lower edge of the mandibular arch. Two further swellings form on either side, the lateral lingual prominences, and these three swellings extend from the mandibular arch to form the anterior 2/3 of the tongue [2]. The posterior third is derived from the third and fourth pharyngeal arches.

Masses are most commonly assumed to be lingual thyroids; however, as our experience has demonstrated, other lesions are possible. Most of the thyroid is derived from an endodermal diverticulum that forms at the foramen caecum of the tongue, before descending through the thyroglossal duct to its final location in the anterior neck [3]. The duct then disappears following the completion of thyroid descent.

Most masses are asymptomatic and found incidentally, but some may cause symptoms of upper airway obstruction [4]. We seek to illustrate the range of possible diagnoses for such lesions by presenting a series of cases where children presented with a mass at foramen caecum on the dorsum of the tongue in the midline. In

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each case, the diagnosis was different.

2. Case 1

A four month old male was referred to the ENT outpatient clinic with an asymptomatic tongue mass which had been found during routine neonatal examination. Ultrasound of the neck showed a normal thyroid gland in the normal position. Examination at the ENT clinic revealed a smooth, pink, fleshy, pedunculated lesion located in the region of the foramen caecum.

MRI confirmed a mass arising from the dorsum of the tongue just to the left of the midline, measuring $8 \times 12 \times 8$ mm and of soft tissue density. The radiologist reported this as most likely ectopic thyroid tissue.

Due to diagnostic uncertainty, the child was listed for surgical excision of the mass using bipolar diathermy and sharp dissection (Fig. 1).

Histopathology showed mildly acanthotic squamous mucosa overlying a hamartomatous lesion of the tongue. There were minor salivary gland elements towards the base of the mass, which were predominantly composed of mucinous salivary gland acini with associated ducts. The specimen did not contain any thyroid tissue, and so a diagnosis of ectopic salivary gland tissue (salivary hamartoma) was made.

3. Case 2

An eight year old female was referred to the ENT department

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(a) An asymptomatic lingual salivary hamartoma on the tongue of a four month old child.



(b) Diathermy procedure to excise a lingual salivary hamartoma present on a four month old child.



(c) Excision site on the tongue of a four month old child following removal of a lingual salivary hamartoma.



(d) A salivary hamartoma which was excised from an asymptomatic four month old child.

Fig.1. Excision of salivary hamartoma of the tongue with bipolar diathermy as described in case 1; before (a), during (b) and after (c and d) the procedure.

having been found to have a tongue mass during routine physical examination. The girl had been aware of the presence of the lump for approximately 18 months, but had been completely asymptomatic. Examination showed a mass of approximately 2.5 cm on the dorsum of the tongue in the midline consistent with a lingual thyroid (Fig. 2), but was otherwise normal.

Ultrasound confirmed the presence of a hypoechoic mass measuring $1.7 \times 2 \times 1.9$ cm at the midline of the tongue posteriorly.



Fig.2. A lingual thyroid in an eight year old girl, who was asymptomatic yet aware of the lump's presence.

There was no thyroid gland visible in the neck on the scan. Thyroid function tests showed slightly raised TSH levels, but T3 and T4 were within the normal range. A diagnosis of lingual thyroid was made. Eighteen months later her TSH had returned within the normal range and the mass had not changed in size. She remains under clinical review with no further interventions planned.

4. Case 3

A ten year old female was referred to the ENT clinic with a mass on the dorsum of her tongue which had been present since birth. She had previously been seen by her local ENT service at age 2, at which time a technetium scan had shown normal uptake in the thyroid gland in the neck but was inconclusive in diagnosing lingual thyroid tissue. The child had since developed a problem of food becoming stuck around the mass, hence this new referral.

Examination revealed a large superficial mass located on the posterior third of the tongue (Fig. 3). MRI with contrast confirmed a midline surface irregularity of the tongue adjacent to the junction of the hard and soft palate. The lesion was 1.6 cm wide and 3 mm thick. No deep extension into the tongue or contrast enhancement was identified. The lesion was excised with radiofrequency cold ablation (Coblation). Histopathology showed a lymphatic vessel malformation. The child remains well at outpatient follow up with no sign of recurrence.

5. Case 4

A 4 month old girl was referred to the ENT clinic following the discovery of a posterior tongue mass, which her parents reported was interfering with her feeding. Examination of the mass Download English Version:

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