

## Aberrant thyroglossal cyst

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### Abstract

A case is presented of a laterally occurring thyroglossal cyst. In conventional teaching, thyroglossal duct remnants occupy the midline, or a position adjacent to the midline, and are found in a line marking the descent of the thyroid anlage and move upwards on protruding the tongue. Laterally presenting thyroglossal duct remnants are unusual.

**Key words:** Thyroglossal cyst

### Introduction

Thyroglossal duct remnants typically present in the midline, or a position adjacent to the midline, and may be found anywhere along the line marking the descent of the thyroid gland including the base of the tongue. They may be eccentrically positioned more commonly on the left than on the right, in common with the pyramidal lobe. There are very few descriptions in the literature of a thyroglossal duct remnant occupying a lateral position.

Our case was unusual in that the thyroglossal cyst occurred in an adult, was situated far laterally, and caused symptoms of respiratory obstruction.

### Case report

A 62-year-old male presented with an inflamed mass on the right side of his neck which had been present for three weeks. It had become progressively larger and was associated with symptoms of respiratory obstruction especially on turning the head. After a course of antibiotics, a persistent mass still remained deep to the junction of the upper and middle thirds of the sternomastoid muscle. The lump moved upwards on swallowing.

Plain X-ray of the neck demonstrated tracheal deviation to the left (Figure 1) and an ultrasound scan revealed a 6.4 × 3.4 cm cyst adjacent to, but separate from, the upper pole of the thyroid gland (Figure 2). The gland itself appeared normal and the provisional diagnosis was a branchial cyst.

Neck exploration was scheduled. Intubation proved difficult due to the marked pharyngeal and laryngeal swelling. A large cyst was found separate from the thyroid gland but with compression of the thyrohyoid membrane. A track led from the cyst to the hyoid bone. This was exposed with a second high cervical incision and the cyst and track were excised.

Histopathological analysis revealed a cyst lined by cuboidal and columnar epithelia and with a fibrotic wall diagnostic of a thyroglossal cyst (Figure 3). The mass proved to be a laterally placed thyroglossal cyst.

### Discussion

The thyroid gland develops as a median thickening in the endoderm of the floor of the pharynx, between the first and second pharyngeal pouches. This invaginates to form a median diverticulum, which grows caudally and gives rise to the thyroid

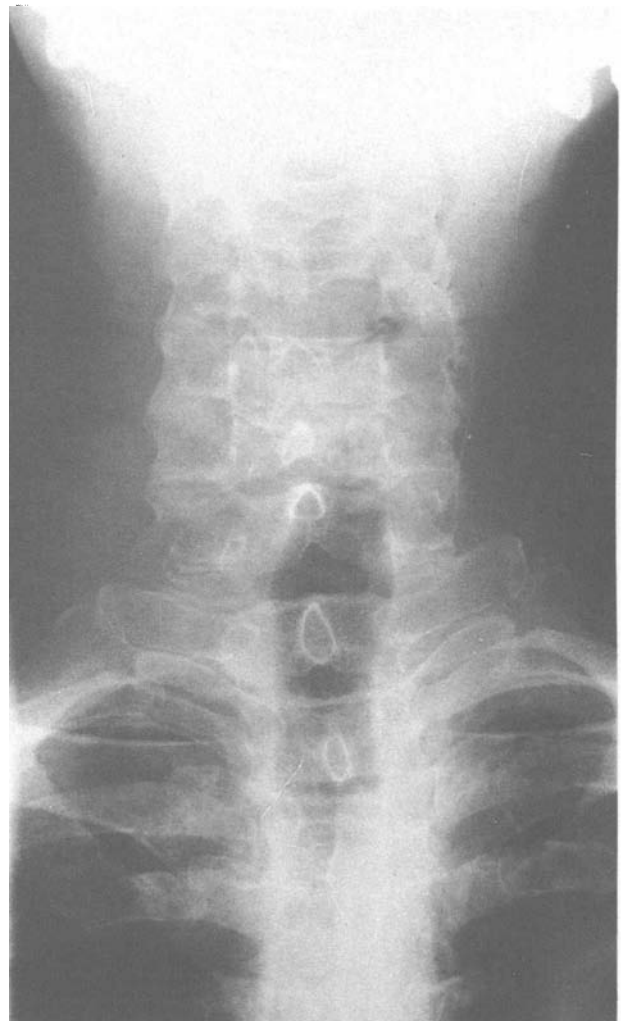


FIG. 1

Plain X-ray of the neck taken pre-operatively, demonstrating tracheal deviation to the left side.

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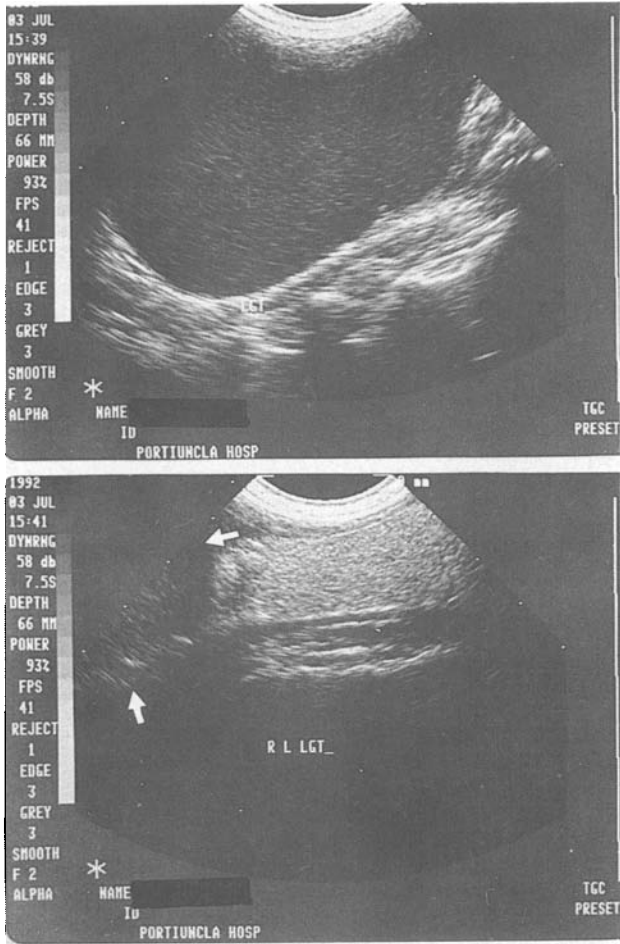
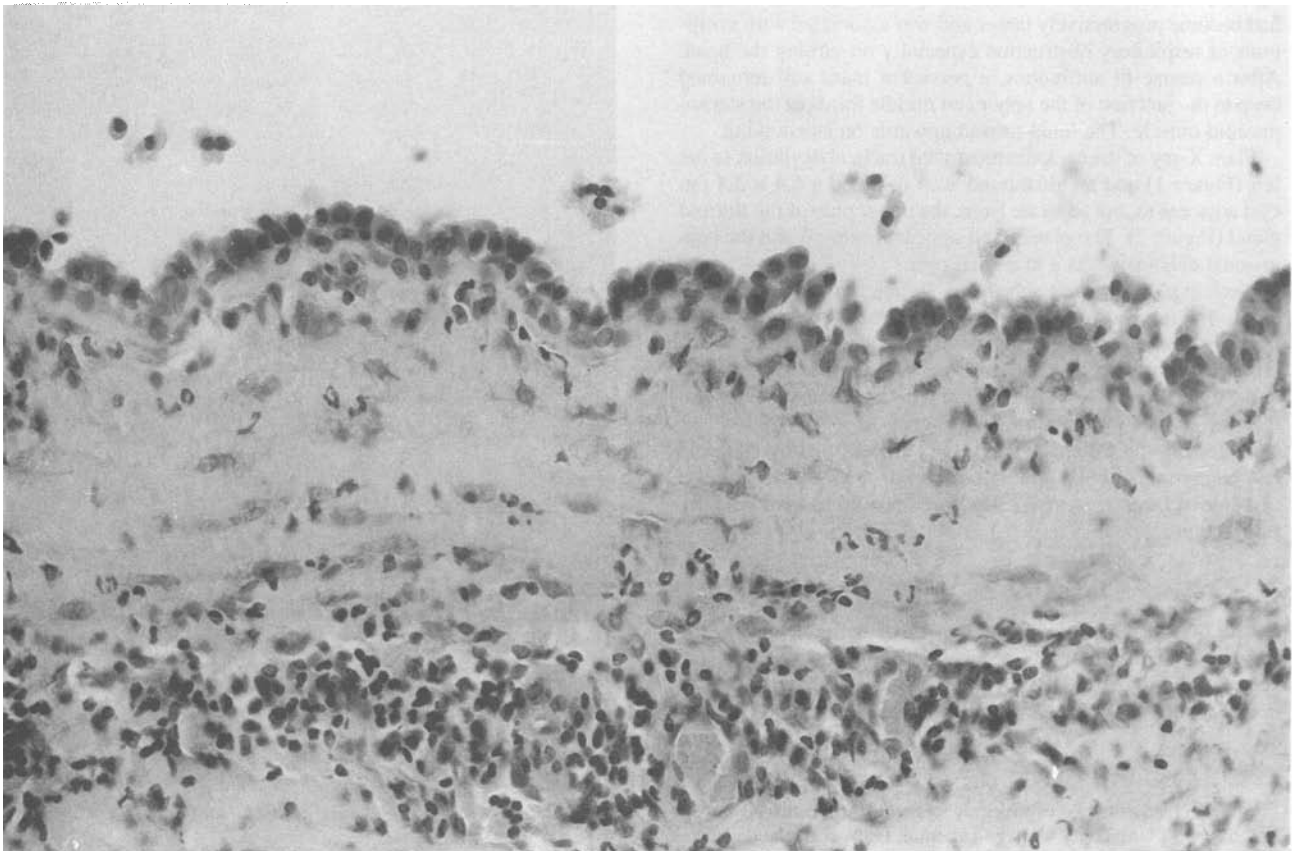


FIG. 2

Ultrasound of the neck demonstrating a large cyst dimensions 6.4 x 3.4 cm (upper picture). The thyroid gland (lower picture, to the right) with the cyst adjacent (to the left; arrowed) but separate from the gland.

FIG. 3

Photomicrograph of the cyst showing a cuboidal epithelial lining and a fibrotic wall, infiltrated by a mixture of acute and chronic inflammatory cells. (H&E; x 259).



gland. The thyroglossal duct connects the median diverticulum to the pharynx (foramen caecum). The proximal part gives rise to minor salivary glands and the distal part gives rise to the pyramidal lobe. The middle portion usually fragments and disappears but may persist and give rise to cysts and/or sinuses and/or fistulae (Williams *et al.*, 1989).

The thyroglossal duct, far from being a simple tube, may be discontinuous, have a variable lining, be multiple and may also branch (Horisawa *et al.*, 1991).

Thyroglossal cysts usually occupy the midline. They may be eccentrically placed when too large to occupy the midline or when they recur after surgery. However true lateral thyroglossal cysts are rare. Only two previous descriptions have been found in the literature (Thompson and Smith, 1967; Sonnino *et al.*, 1989). Each described a laterally occurring cyst in a child: in addition Sonnino *et al.* (1989) described two children with thyroglossal cysts within the substance of the thyroid gland. Tovi and Eyal (1985), described a branched duct that ended in two separate cysts and Dickinson (1972), described a bifid thyroglossal duct in which the two thyroid lobes were present but the isthmus was absent.

### Conclusions

This case emphasizes a number of important points. Thyroglossal duct remnants may present away from the midline and may be multiple. It highlights the reason why a wide core of tissue must be excised, to remove all remnants, even those that are

laterally placed, and thereby prevent recurrence of thyroglossal duct remnants.

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