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Goitre presenting as an oropharyngeal mass: an unusual finding in the elderly

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Abstract
Thyroid goitre presentation in the neck with extension inferiorly to the mediastinum is well-known. Extension superiorly into the retropharyngeal space is very rare and may be accompanied by change in voice and/or airway compromise.

A case is described of a patient with change in voice and mild airway compromise secondary to a goitre presenting in the oropharynx. Computed tomography (CT) and physical findings are discussed with the need to recognize this rare entity.

Key words: Goitre; Retropharyngeal space

Introduction

Goitre usually presents as a painless neck mass occasionally with extension into the mediastinum. Patients may be managed medically if they are asymptomatic or may require a more aggressive surgical approach if there is tracheoesophageal compression (Som and Sugar, 1991). The finding of a retropharyngeal goitre is very rare, only briefly mentioned in the literature (Soboroff, 1977; Kenyon and Robb, 1983; Som and Sugar, 1991). The otolaryngologist should include this unusual entity in the differential diagnosis of an oropharyngeal mass. Physical examination of the head and neck with fibre-optic laryngoscopy and computerized tomography (CT) will secure the diagnosis. Awareness that the pretracheal space, retroesophageal and retropharyngeal space are all one space is important in understanding the pathophysiology of a goitre extending cranially to the oropharynx (Som and Sugar, 1991).

Management of retropharyngeal goitre may be medical or surgical depending on the clinical presentation, physical examination and CT scan.

Case report

A 79-year-old white male arrived at the office for evaluation of a hearing loss. There was no other significant medical history. The patient did have an unusual fullness-like quality to his voice. He denied dysphagia but did admit to mild exertional dyspnoea. Physical examination revealed a large oropharyngeal submucosal mass. Neck palpation showed bilateral carotid triangle fullness, non-pulsatile. Fibre-optic laryngoscopy revealed the larynx and subglottic area to be normal but diffuse swelling in the lateral pharyngeal walls with a prominent bulge at the level of the oropharynx was noted. CT scan showed a bilobed mass surrounding the airway at the thoracic inlet extending

FIG. 1
Goitre at thoracic inlet – arrows indicating mass.

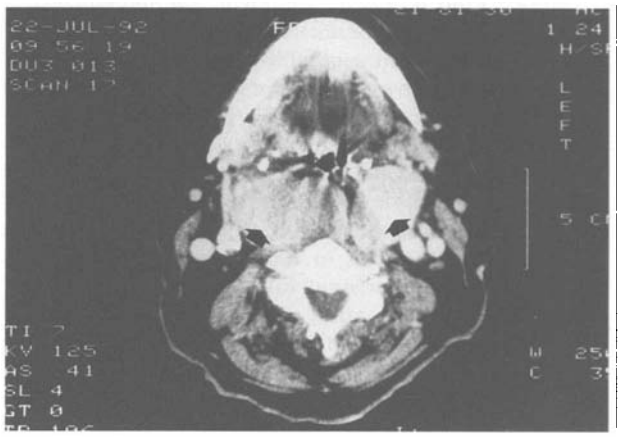

FIG. 2
Goitre at level of oropharynx – arrows indicating mass.

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TABLE I
THYROID MASS IN THE RETROPHARYNGEAL SPACE

	Age	Sex	Symptoms	Thyroid hormone level	Clinical size of thyroid gland	Surgery
Soboroff (1977)	42	F	Noisy breathing	Euthyroid	Enlarged	Total excision
Kenyon (1983)	57	M	Change in voice	Hypothyroid	Normal	Biopsy
Som and Sugar (1991)	79	F	Dyspnoea	Euthyroid	Enlarged	Total excision
Som and Sugar (1991)	71	F	Dyspnoea	Euthyroid	Enlarged	Total excision
Our patient	79	M	"Hot potato" voice	Hyperthyroid	Normal	None

cephalad (Figure 1) to the level of the oropharynx where the mass is retropharyngeal in location (Figures 2 and 3). There is contrast enhancement and scattered calcification within the mass consistent with a large goitre. The patient has been managed with medical thyroid suppression with improvement in his voice and decrease in size of the goitre over the course of several months. Surgery was declined by the patient due to his improvement.

Discussion

Thyroid tissue in the retropharyngeal space is extremely rare. Reviewing the literature we could only find four additional cases of thyroid mass in this region (Soboroff, 1977; Kenyon and Robb, 1983; Som and Sugar, 1991) (Table I). There are two potential pathways for development of thyroid tissue in the retropharyngeal space. One is ectopic thyroid tissue, while the other is direct cephalic extension of the enlarged thyroid gland.

The first pathway is based on the embryological development of the thyroid. The gland develops from a median ventral diverticulum of the pharynx posterior to the tuberculum impar (Harrison, 1981). Another structure that contributes to the development of the gland is the ultimobranchial body, that is a ventral diverticulum of the fourth pharyngeal pouch (Weller, 1993). It has been assumed that the failure of fusion between the ultimobranchial bodies and the ventral primordium is the reason for ectopic thyroid tissue (Beaugie, 1975). This is most likely the cause for the thyroid mass in the retropharyngeal space in Kenyon and Robb's case report (1983).

Direct extension of goitres of the thyroid usually extend inferiorly into the mediastinum. Cephalic extension of the thyroid into the retropharyngeal space is rarely recognized and only three case reports have been published by Soboroff (1977) and Som and Sugar (1991).

Kenyon's and Robb's (1983) case differs from the other cases in two respects: on histology it is Hashimoto thyroiditis *versus* multinodular goitre in the other cases; pathophysiologically it is ectopic thyroid tissue, while the others are direct extension of the enlarged thyroid into the retropharynx.

In all cases reviewed, the goitrous thyroid extended from the mediastinum to the oropharynx. However, extension into the retropharynx takes place only as a late event after inferior extension into the mediastinum (Kenyon and Robb, 1983).

Comparing our case report with the other multinodular goitres reveals that all the patients were in their 70s. All had 'hot potato' voice and varying degrees of dyspnoea.

Anatomically the thyroid gland is situated in the pretracheal space which extends caudally into the mediastinum and ventrally into the retrovisceral space around the oesophagus and the trachea. At the level of the pharynx this space is the retropharyngeal space. Thus, considering the cervical spaces and the location of the thyroid gland, it is now understood how a thyroid enlargement can reach the retropharyngeal space and the mediastinum.

Extirpation of the goitre was performed in all cases while our patient received thyroid suppression medication with relief of the symptoms.

This case report should alert the physician to the possibility of retropharyngeal goitre in elderly patients, causing stridorous breathing or voice changes. It is recommended to carry out CT scans of the cervical region along with the mediastinum in cases of symptomatic enlargement of the thyroid gland.

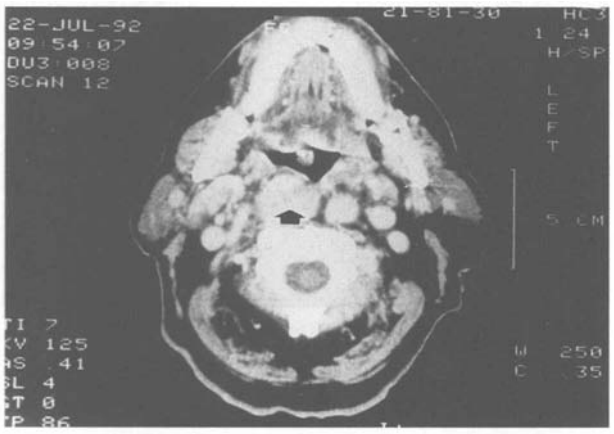

FIG. 3
Goitre at level of uvula – arrows indicating mass.

References

Beaugie, J. M. (1975) *Principles of Thyroid Surgery*. Pitman Medical, London, pp 114–117.

Harrison, R. G. (1981) In *Cunningham's Textbook of Anatomy*. 12th Edition (Romans, G. J., ed.), Oxford University Press, Oxford, pp 257–258.

Kenyon, G. S., Robb, P. J. (1983) Hashimoto's disease presenting as an unusual retropharyngeal mass. *Clinical Oncology* **9:** 159–164.

Soboroff, B. J. (1977) An unusual retropharyngeal mass. *Transactions of the American Academy of Ophthalmology and Otolaryngology* **84:** 136–138.

Som, P. S., Sugar, J. M. A. (1991) Retropharyngeal mass as a rare presentation of a goitre: CT findings. *Journal of Computer Assisted Tomography* **15(5):** 823–825.

Weller, G. C. (1993) The development of the thyroid, parathyroid and thymus gland in man. *Contributions to Endrocrinology: Carnegie Institute of Washington* **124:** 93–139.

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