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Massive thyroid oncocytoma

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Abstract
A patient with a massive thyroid oncocytoma is presented. The symptoms of hoarseness and dysphagia were due to compression and were relieved by surgical excision of the tumour.

Introduction

The oncocytoma or Hurthle cell tumour is a rare neoplasm with a variable spectrum of malignancy. The cell of origin is the oncocyte which was first described by Jaffe in 1932. This is a large, oxyphilic epithelial cell filled with cytoplasmic mitochondria, found in most glandular tissues. Oncocytomas are described arising in the salivary glands, thyroid, parathyroid, larynx and pituitary gland in the head and neck.

Thyroid oncocytomas have been found occasionally to be associated with underlying thyroid disease, such as Hashimoto's disease, Graves disease and nodular goitre.

Case report

A 72-year-old man initially presented in 1983 with mild hoarseness and a 4 cm^3 swelling inferiorly in the left anterior triangle. He had a left vocal cord palsy. The diagnosis of oncocytoma was made histologically following incisional biopsy, and the patient was treated with radical radiotherapy.

Over the next six years, the tumour steadily enlarged. The patient's first presentation to our ENT Department in 1989 was precipitated by a fall which led to a further sudden increase in the size of the swelling (Fig. 1). He also had a six-month history of increasing hoarseness and dysphagia. The skin over the inferior aspect of the mass was atrophic and breaking down. On indirect laryngoscopy, the larynx was displaced to the left and there was a right cord palsy and decreased movement of the left vocal cord.

Computerized tomography confirmed the clinical finding of a large multiloculated tumour filling the anterior compartment of the neck (Figs. 2 & 3). It extended from the upper margin of the thyroid cartilage to the superior mediastinum on the right. The larynx and trachea were displaced laterally, and minimally compressed. Digital subclavian arteriography demonstrated lateral and posterior displacement of the carotid sheath. The vascular supply of the tumour was from multiple small vessels. It was decided to excise the mass.

The operative findings were of a large multiloculated, encapsulated mass arising from the right thyroid lobe. It was adherent to the left internal jugular vein but the other viscera of the neck were uninvolved. Two smaller 'satellite' lesions were identified, one at the upper pole of the lesion on the right and the other adherent to the left sternocleidomastoid muscle.

The mass was excised from the neck and superior mediastinum and a right hemithyroidectomy was performed. The mass measured 20 × 17 × 12 cm and weighed 743 g. Histological examination confirmed the original diagnosis of oncocytoma and some of the cells contained thyroglobulin, indicating its origin from the thyroid gland. There were numerous mitoses, nuclear pleomorphism, necrotic areas and vascular invasion, suggesting malignancy. The surrounding thyroid tissue showed fibrosis, haemorrhage, myxoid degeneration and calcification.

The patient made a rapid post-operative recovery. His temporary tracheostomy was closed after ten days and he was discharged home. On his first out-patient review, one month after surgery (Fig. 4), both his vocal cords were seen to move slightly. Over the next three months, the left cord recovered full mobility, and the right regained a little movement, confirming the operative impression that the recurrent laryngeal nerve dysfunction was due to compression.

Discussion

Oncocytomas of the thyroid are rare. The clinical course is very variable, and predicting the outcome from the histological appearance is unreliable. The features of vascular invasion and satellite nodules were considered by Thompson *et al.* (1974) to indicate malignant potential, although they found little correlation between histological appearance and clinical course. Johns *et al.* (1977) found that electron microscopy failed to reveal any features which could be considered as indications of malignancy. Long-term follow-up in the series reported by Frazell and Duffy (1951) suggests that even if lesions appear encapsulated it is unwise to consider them as benign adenomas, because local invasion and metastasis can occur several years after initial diagnosis. They also showed that metastasis to local lymph nodes is seen most commonly in cases of recurrent disease, after resection of the primary tumour. In contrast, Gardner (1955) followed up 46 cases for a mean of 12 years, and found only one malignant tumour. Haemotogenous spread is the usual terminal feature of malignant oncocytomas. Neisius *et al.* (1988) described an isolated renal secondary.

Thyroid oncocytomas are not usually noted for their large size. The largest recorded to date by Gardner in 1955 weighed 375 g. The case we present is of an oncocytoma measuring 20 × 17 × 12 cm, and weighing 743 g, which had been present

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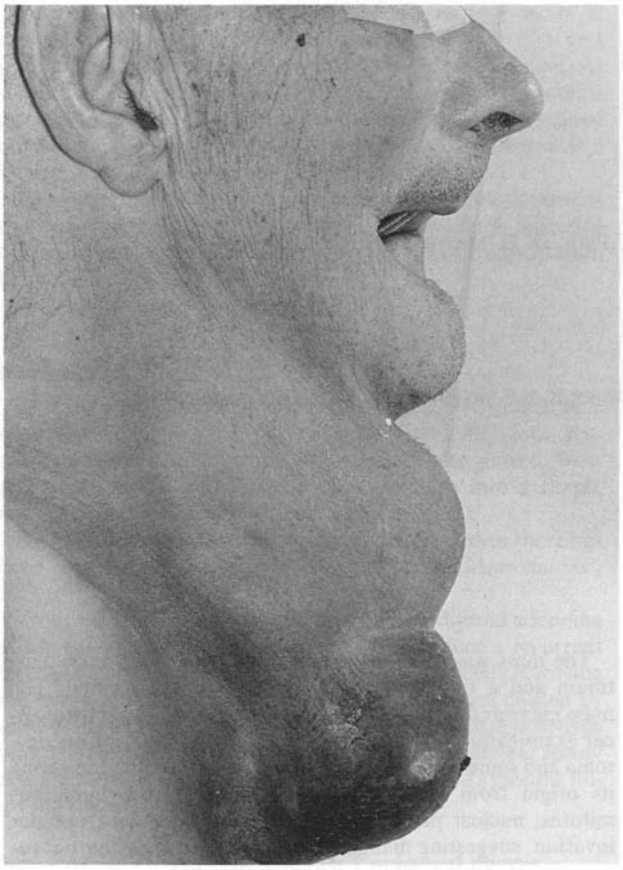

FIG. 1
Pre-operative appearance.

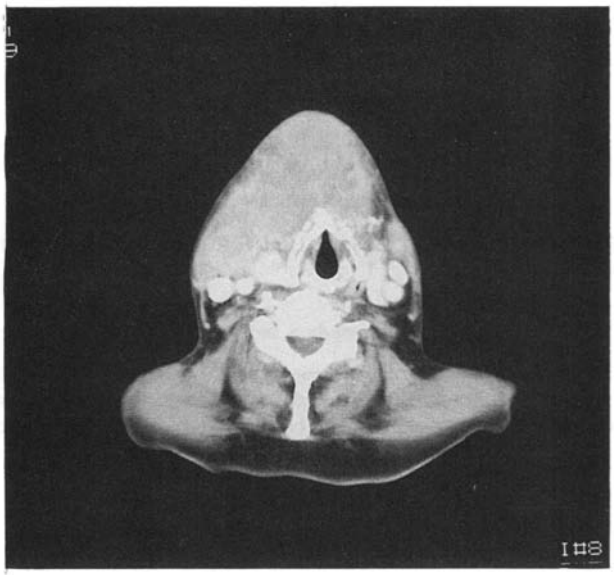

FIG. 2
Axial CT at the level of the glottis.

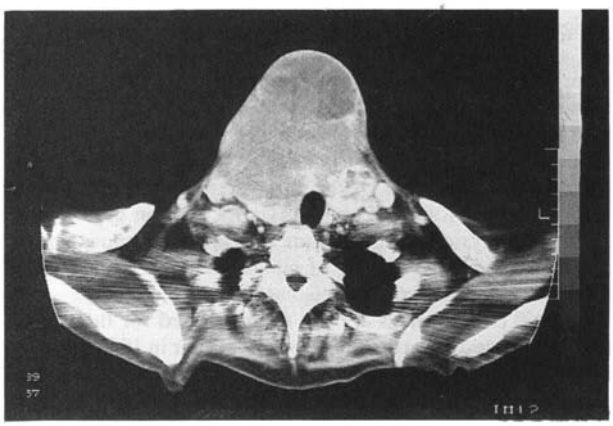

FIG. 3
Axial CT of the root of the neck.

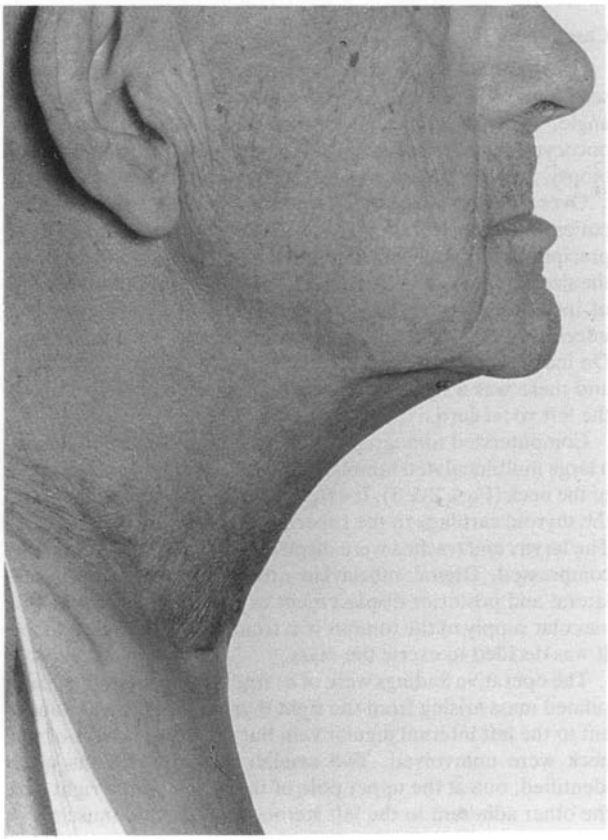

FIG. 4
Appearance one month post-operatively.

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for six years. It was associated with vocal cord paresis which was due to compression, but shows other features suggestive of malignancy.

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