

Case Report

Multinodular goiter: an unusual case presentation

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ABSTRACT

Goitrous enlargement of the thyroid gland usually presents as a nontender anterior neck mass. Asymptomatic patients may be treated medically, which often reduces the size of the gland or avoids progression of the disease. Neglected or ineffectively treated cases may grow beyond the confines of the gland, which primarily occurs caudally into the mediastinum. In this paper, we present a patient with multinodular goiter with a large retrosternal component.

Keywords: Thyroid gland, Multinodular, Retrosternal, Goiter

INTRODUCTION

Goitrous enlargement of the thyroid gland usually presents as a nontender anterior neck mass. Asymptomatic patients may be treated medically, which often reduces the size of the gland or avoids progression of the disease. Neglected or ineffectively treated cases may grow beyond the confines of the gland, which primarily occurs caudally into the mediastinum. In this paper, we present a patient with multinodular goiter with a large retrosternal component.

CASE REPORT

A 60 years old female living in a moderately iodine-deficient environment came with complaints of swelling in right side of neck for 15 yrs. Initially swelling was small then it gradually progressed to present size. Patient had history of dyspnoea, anxiety. There was no history of associated pain, insomnia, tremors, hoarseness of voice, stridor, dysphagia, protruding eyes. Physical examination revealed a large mass with solitary nodule in the right side. Mass extending above upto the cricoid cartilage, below upto the sternal notch, laterally till the sternocleidomastoid. On palpation, a 12x10 cm right lobe

which was nodular moving with deglutation firm in consistency.

Left lobe was nodular but not that significantly enlarged. Getting below the swelling was not possible, rest of the thyroid was diffusely enlarged and nodular. No bruit heard on auscultation. Patient systemic examination was within normal limits. Routine investigations were within normal range. Thyroid function tests showed the patient to be euthyroid. USG Thyroid gland showed grossly enlarged thyroid with multiple nodules noted in entire thyroid, suggestive of multinodular goiter.

During the surgery right lobe excised in process after careful excision of middle thyroid vein, superficial thyroid artery and inferior thyroid artery in continuity.

Left lobe of thyroid gland which was involved retrosternally. Left lobe gently separated from medial to lateral plain. Left lobe was extending about 4 inches down behind the sternum. Total thyroidectomy was done and 475 gm of thyroid gland removed. The histopathological examination revealed multinodular colloidal goiter. Section showed thyroid tissue with multiple thyroid follicles of varying size separated by

fibrocollagenous septae. Areas of calcification, cystic degeneration, hyaline degeneration, haemorrhage and foamy macrophages were noted. No evidence of malignancy was noted.

The postoperative course was uneventful. The preoperative symptoms were relieved after surgery. Postoperatively the patient became hypothyroid and was placed on thyroid replacement therapy.



Figure 1: Pre-operative picture.

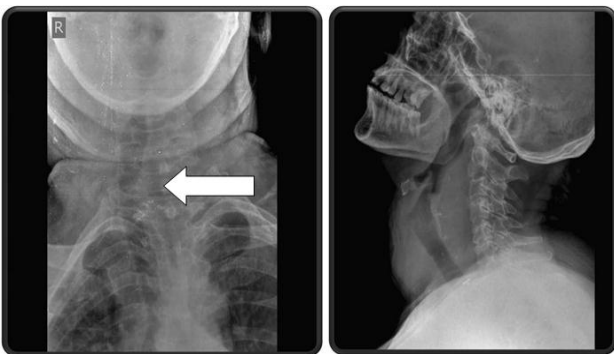


Figure 2: X-ray AP - Lat. view showing tracheal deviation to the Rt. side.

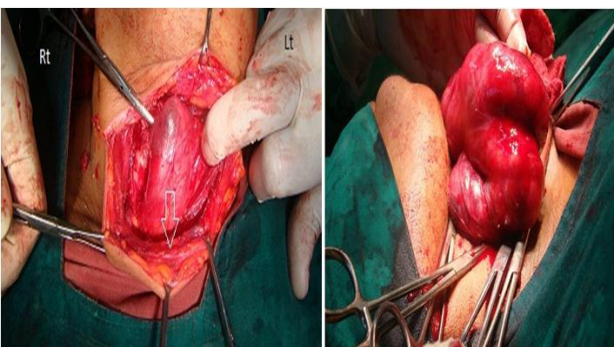


Figure 3: Intra operative picture, showing left lobe of thyroid gland which was involved retrosternally, extending about 4 inches down behind the sternum.

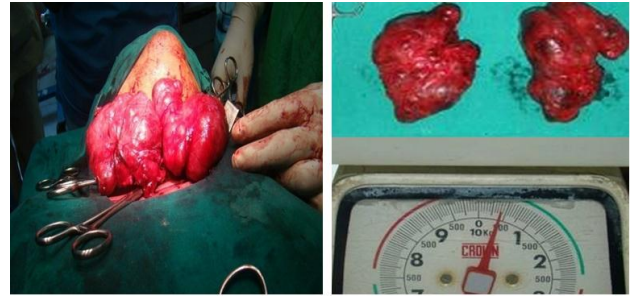


Figure 4: Showing approx. 475 gm of thyroid gland after total thyroidectomy.



Figure 5: showing gross appearance of the specimen.

DISCUSSION

The incidence of retrosternal goiter in patients undergoing thyroidectomy ranges from 1% to 20%.¹ This condition has a clinical importance because it presents a diagnostic dilemma with its compressive symptoms and operative difficulty as to which approach is most suitable for its management. Negative intrathoracic pressure, gravity, and the large space of the mediastinum facilitate downward movement of a goiter. Retrosternal goiters mainly derived from lower pole of the multinodular goiter.

According to the degree of descent these goiters can be classified into; Substernal goiter – it is palpable from the neck by insinuating finger behind the sternum.

Plunging goiter - it is normally not palpable, but in case of increased intrathoracic pressure such as during coughing or sneezing.

Intrathoracic goiter - it is completely inside the thorax and is never palpable from the neck.²

The majority of Retrosternal goiter is cervicomediastinal (79%), usually by extension of the left lobe of the thyroid. Other modes of presentation include neck mass (75%), hoarseness of voice (37.5%), dysphagia (31.3%), stridor/wheezing (19%), or SVC obstruction (6.25%).³ Left-sided retrosternal goiter can squeeze between the trachea and esophagus, or even behind the esophagus, displacing the trachea and arterial elements forward.

CONCLUSION

Multinodular goiter not uncommonly grows substernally causing symptoms related to compression of the trachea and oesophagus. Asymptomatic patients may be treated medically, which often reduces the size of the gland or avoids progression of the disease. Neglected or ineffectively treated cases may grow beyond the confines of the gland. Health Organizations should focus on these endemic areas of the world to eliminate such ignorance. Although the surgical technique use is routine; the operative challenge is the huge size of the gland and its adherence to vital structures. To improve the outcome of such operations, which are commonly performed worldwide, such huge goitres must be taken seriously.

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