

## A Historic Multi-Nodular Goiter Presenting with Compressive Symptoms: A Case Report

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### Abstract:

Euthyroid multinodular goiters are common in some geographic areas, and they can cause compressive symptoms. We present a case of a giant compressive goiter. Surgical excision is the best treatment to avoid the gravity of complete airway obstruction. However in some situations it seems difficult requiring a high level of expertise and can lead to serious complications.

### Introduction

Nodular goiter is a frequently encountered endocrine disorder during routine clinical practice it is defined by nodular hypertrophy of the thyroid gland independently of its pathology caused by compensatory hyperplasia and hypertrophy of the follicular epithelium (1).

It can cause compressive symptoms involving the trachea, oesophagus, and recurrent laryngeal nerve. These symptoms are usually associated with malignant goitres, and benign nodular goitres do not normally cause obstructive symptom.

In this article, we present a case of a huge compressive goitre and plunging intra thoracic.

### The case

We present the case of a 62-year-old woman with type 2 diabetes discovered 10 years ago, presented to the ENT emergency department for a huge anterior cervical swelling that had been evolving for 7 years and had rapidly increased in size over the last two months associated with inspiratory dyspnea which developed. (figure 1)

At the admission examination the patient was polypneic (30 breaths / minute), dysphonia, tachycardia, and blood

pressure of 150/90 mmHg. Its oxygen saturation was 82% in the ambient air. The cervical examination found a large multinodular goiter occupying the entire anterior region of the neck measuring approximately 23 cm / 19 cm in its largest dimensions, where it hung over the sternum, the lower edge of the goiter could not be palpated suggesting intrathoracic extension the remainder of the clinical examination found no clinical signs of dysthyroidism.

The patient was put in a semi-seated position with oxygenation by an oxygen mask after stabilization (spo2 at 96%) a radiology assessment was carried out including a cervico-thoracic CT revealing a huge cervical goiter plunging into intrathoracic with central calcifications coming into contact supra aortic trunks measuring 27 cm / 20 cm containing several nodules of variable sizes extending laterally with compressions of the 2 internal jugular veins which appear impermeable after injection of contrast product, the cervical trachea is compressed and its walls are laminated.(figure 2)

The cervical ultrasound shows a large multi-heteronodular, compressive plunging goiter with macrocalcifications classified eutirads 4, absence of suspected

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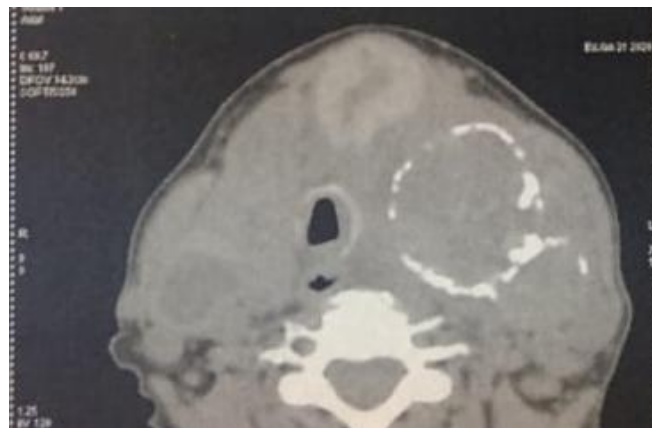
cervical lymphadenopathy the biological assessment was normal.

The surgical decision was not considered in the first intention (tracheotomy impossible and intubation

difficult) patient was referred to the thoracic surgery department for possible placement of an endotracheal prosthesis to free the airways.



**Figure 1:** picture of the patient showing the cervical mass



**Figure 2:** CT scan of the patient showing the giant thyroid

## Discussion

A multi-nodular goiter is simply a thyroid gland that is usually enlarged and contains several thyroid nodules. The nodules can be very small, often only a few millimeters, or can be larger, perhaps several cm each [2].

Retrosternal goiters explain most of these cases, as the growth of the thyroid in the bony rigid thoracic inlet can cause tracheal compression. However, when a goiter is purely cervical, it rarely compresses the trachea to cause an obstruction [3]

The gradual and slow growth can allow the patient time to compensate for up to 70% of the tracheal compression [3]

These enlarged thyroid glands may also be a cosmetic problem concern for

some patients, who opt for surgical excision of the lobe or gland for this reason [4].

If specific questions were asked, 45% of patients declared having shortness of breath on exertion or in the supine position [5].

Using spirometry as a screening tool, the incidence of upper airway obstruction ranged from 10% to 31% [6].

The risk of malignancy in the dominant nodules within multi-nodular goiters is approximately 10% [7].

Peak inspiratory flows may orient the indication of urgent thyroidectomy [8].

These malignant tumors can be extremely slow growing and can be present for many years before being discovered [9].

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The slow growth rate of the thyroid gland allows adaptation to extrinsic hypoventilation without acute symptoms [8].

### Conclusion

Nowadays, some of these historic diseases are still seen mostly in areas with a lack of medical infrastructure.

Compression goiters represent a real public health problem, especially in endemic regions. Their management requires an adapted and rapid treatment in order to reduce the risks associated with the pathology and the surgery.

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