

# Huge Multinodular Goiter with occult carcinoma: A case report

Azaz Ayubi<sup>1</sup>, Muhammad Aqib<sup>2</sup>, S H Waqar<sup>3</sup>

<sup>1,2</sup>Postgraduate Resident, Surgical Unit I, Department of General Surgery, PIMS, Islamabad

<sup>3</sup> Professor of Surgery, Surgical Unit I, Department of General Surgery, PIMS, Islamabad

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## Address of Correspondent

Dr Azaz Ayubi

Postgraduate Resident

Surgical Unit I

Department of General Surgery

PIMS, Islamabad

azazayubibutt@hotmail.com

## ABSTRACT

Enlarged nodular goiters are becoming increasingly infrequent. They are still common in certain geographical areas and can present with compressive symptoms to the trachea, oesophagus and recurrent laryngeal nerve. Surgical treatment of enlarge goiter involves a high degree of skill which can lead to serious complications. We present a case 73 year old female patient who had huge enlarged multinodular goiter for more than 15 years. Surgery was planned and thyroidectomy was done. Surgical excision resolved the local symptoms. Histopathological examination revealed papillary carcinoma with multiple cysts and areas of haemorrhage and necrosis.

**Keywords:** Compression symptoms, Multinodular Goiter, Thyroidectomy.

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## Introduction

Multinodular Goiter is one of the most common endocrine disorders, especially in cities where Iodine deficiency is endemic. Goiter is a compensatory abnormal enlargement of the thyroid gland.<sup>1</sup> It is more common among women. Its true incidence is unknown though endemic in Pakistan's northern regions especially in Swat, Dir and Chitral districts of Khyber Pakhtunkhwa and certain areas of Sindh province especially Sukkur and Ghotki.<sup>2</sup> Clinically overt thyroid diseases is uncommon in childhood and adolescence. In a review of the incidence of occult carcinoma in a multinodular goiter, papillary carcinoma was the most common cancer (7%).<sup>3</sup> We here present the rare of huge multinodular goiter with dyspnea which turned out to be papillary carcinoma on histopathology.

## Case Report

A 73-year-old female presented in our outpatient department of General Surgery, Pakistan medical institute of medical sciences, Islamabad with huge progressive swelling in front of neck more on right side for last 15 years. Initially swelling was small with no symptoms. Swelling increased gradually with the passage of time. There was a recent onset of difficulty in breathing for last three months of illness. There was no history of

palpitation, easy fatigability or weight loss, and any change in voice.

Upon examination, the swelling was smooth multi-lobulated with solid to cystic consistency more on the right side with a deviation of trachea on the opposite side. The goiter measured approximately 20x35 cm in its largest dimensions and displayed multidirectional enlargement. (Figure 1)



**Figure 1. Patient with Huge Multinodular Goiter.**

Swelling moved with deglutition with positive and no cervical lymphadenopathy was appreciated. Baseline investigations, Thyroid function test (TFTs), Fine needle aspiration cytology (FNAC), X-ray thoracic inlet, Ultrasound, and CT scan were advised. Patient's euthyroid status was confirmed by thyroid hormone profile during routine preoperative tests. FNAC reported

colloid goiter with moderately cellular showing few stromal cells along with macrophage lymphocyte and neutrophil against hemorrhagic background. No evidence of malignancy or granuloma is seen. Ultrasound findings were of enlarged cystic lesions on both sides neck with multiple solid components showing irregular margins and exhibiting vascularity with partial visualization of the left lobe of the thyroid gland. CT findings were of a huge solid-cum-cystic lobulated infiltrative mass lesion involving the right side of neck causing mass effect on adjacent soft tissue.

All other baseline investigations were within normal limit. After the case discussion in the multidisciplinary meeting, the surgery was planned. The patient was intubated by a consultant anaesthesiologist with fiberoptic. Surgery was started with a transverse incision made over the swelling two finger width above suprasternal notch. After formal exposure for thyroid, goiter is freed from the surrounding soft tissue with blunt dissection. During surgery, the left lobe was found normal and the whole of the enlarged goiter was found in the right lobe of the thyroid. (Figure 2) Right hemithyroidectomy was performed after identifying the recurrent laryngeal nerve. Hemostasis was secured and the wound was closed. Excised specimen was sent for histopathology. The Post-op course was satisfactory and uneventful. The patient was discharged on the 8<sup>th</sup> postoperative day. Histopathology report revealed papillary thyroid carcinoma and the patient was referred to the oncology department for further treatment.



**Figure 2. Thyroidectomy specimen.**

## Discussion

Giant nodular goiter can be associated with severe compressive symptoms, mostly difficulty in breathing and surgical treatment is inevitable for such cases. However, there is a higher risk of surgical complications,

and the duration of the operation may be longer than that of small thyroid goiters. If surgery is not offered, the symptoms associated with huge goiters that develop in which dysphagia, dyspnea, orthopnea and cough are the typical symptoms.<sup>4</sup> In our case, the patient presented with recent onset of severe difficulty in breathing, although she had swelling in front of neck for more than 15 years. Swelling developed to massive size over a long period. Surgical treatment was planned after thorough workup to relieve the patients' symptoms. The incision was relatively long to provide better surgical exposure. It took about 115 minutes to perform thyroidectomy, which seemed to be longer than in patients with relatively small goiters (normally around 60 minutes). The patient recovered completely and discharged on 7<sup>th</sup> postoperative day.

The multinodular goiter is generally thought to be a low risk for malignancy. The management of thyroid nodule depends upon the symptoms, results of TFTs, FNAC, and imaging. In spite of negative fine-needle desire cytology, the patient can still have a malignant focus because of a high false negative result in FNAC with multinodular goiter. In our case FNAC smears examined and were moderately cellular showing few stromal cells along with macrophage lymphocyte and no features of malignancy. Thyroid surgery is usually done to rule out thyroid malignancy or if benign thyroid disease is symptomatic or for cosmetic purposes. In our case we did right sided hemi-thyroidectomy as the left lobe was normal.

Surgery is the primary treatment for huge goiters. However, the rate of surgical complications, including recurrent laryngeal nerve damage, hypocalcemia, and hemorrhage, continues to be higher than in small goiters with thyroid because of anatomical changes and less exposure.<sup>5</sup> Our patient had an uneventful recovery and was discharged on 7<sup>th</sup> postoperative day. There was no immediate postoperative complication noted.

Evidence showed that incidental thyroid carcinoma is frequently discovered at histology after surgical removal of thyroid for benign pathology.<sup>6</sup> Its prevalence in thyroidectomies specimens ranges up to 40%,<sup>7</sup> while the incidence of occult carcinoma in resected multinodular goiters is reported as 4 – 17 % in the literature.<sup>8</sup> In this case, the histopathology of thyroid specimen reported as papillary thyroid carcinoma for which patient was referred to Oncology department for further treatment. Its

incidence is also high among female due to hormonal influence and this needs further evaluation.<sup>9</sup>

## Conclusion

Surgical treatment of enlarged goiters provides relief to the local symptoms of the patient as in the case study. Although the majority of thyroid swellings are benign in nature; the incidence of occult carcinoma, especially in huge and long standing thyroid swellings as in our case should not be ignored.

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