

## A Giant Thyroid Tumour: A Case Report

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**Abstract:** A giant thyroid tumour present as a huge enlarged thyroid gland and also may be associated with compressive and obstructive symptoms. Our case of giant thyroid tumour attended out patient department of ENT and Head & Neck surgery, Gauhati Medical College & Hospital with chief complaints of huge enlargement of thyroid gland with associated history of difficulty in breathing on supine position. Pre-operative assessment was done by through clinical examination, fine needle aspiration cytology and radiological examination. Total thyroidectomy was done under general anaesthesia with preservation of parathyroid gland and recurrent laryngeal nerve and with excellent post operative result. Post operatively the tumour measured 25×22.5×12 cm in its largest dimensions and weighed 3.7 kg.

**Key words:** Giant thyroid tumour, thyroid gland, parathyroid gland, recurrent laryngeal nerve, thyroidectomy etc.

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### I. Introduction:

Thyroid diseases are relatively common. They occur in the form of abnormalities in the size and shape of the thyroid gland (goiter) and of abnormalities of thyroid secretion. The thyroid gland is composed of two lateral lobes connected by a central isthmus, weighing 15 to 25 g in adults. A thyroid lobe usually measures about 4 cm in height, 1.5 cm in width, and 2 cm in depth. The superior pole lies posterior to the sternothyroid muscle and lateral to the inferior constrictor muscle and the posterior thyroid lamina. The inferior pole can extend to the level of the sixth tracheal ring [1]. A giant thyroid tumor is defined as any thyroid tumor with an average weight greater than 500 g, a diameter greater than 100 mm, in which the upper end extends up to the mandibular angle, the lower end extends to the sternum and both sides of the posterior border are normally sternocleidomastoid muscle [2]. Diffusely enlarged thyroid glands 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 symptoms [3]. In this case report, we present a case of giant multi-nodular goitre, with symptom of breathing difficulty on supine position, alongwith meticulous surgical management to avoid malignant transformation, morbidity and to provide with better aesthetic.

### II. Case Report

A 60 years old male, came to out patient department of ENT and Head & Neck surgery, Gauhati Medical College and Hospital, with a chief complaint of huge swelling in front of the neck, patient noticed swelling since 25 years which was progressively increasing in size. Initially there was no history of difficulty in swallowing or breathing difficulty but for the last 2 years patient was having difficulty in breathing on supine position. There was no symptoms of hypothyroidism or hyperthyroidism and no clinical signs of thyroid dysfunction were noticed. There was no past history of hypertension, diabetes mellitus and bronchial asthma.

On clinical examination the swelling was giant and measured approximately 28 × 24 × 15 cm in its largest dimensions. The goiter was mobile, non-tender firm in consistency, multinodular, the skin over the goiter was stretched with multiple venous enlargement. Anteriorly it was pendulous over the sternum and inferiorly the lower border or edge of the goitre was clearly defined (suggesting no substernal extension) Pemberton's sign was negative. The goitre did not show movement on deglutition. A thyroid hormone status was euthyroid which was confirmed during routine preoperative tests. X-ray soft tissue neck antero-posterior and lateral view showed a mass in his neck, there was no remarkable tracheal deviation. The fine needle aspiration cytology (FNAC) was done and the feature was consistent with colloid goitre. The decision for operation was taken based on the patient's complaints and to avoid malignant transformation, patient's morbidity and to provide with better aesthetic.

After obtaining the informed consent of the patient, total thyroidectomy was planned under general anaesthesia. A transverse surgical incision was made over the redundant skin and excess redundant skin was excised. The strap muscles were found thinned-out and was cut for proper exposure. After formal exposure of

the thyroid gland, the tumor was carefully dissected, we were able to preserve both parathyroid glands and the recurrent laryngeal nerve was identified and preserved. There was no cervical lymph nodes and there was no tracheomalacia. The operation took 2 hours. The resulting thyroid specimen was 25 × 22.5×12 cm in its largest dimensions and weighed 3.7kg. The postoperative course was uneventful and the patient was discharged after 7days without any complications. Histopathological examination showed thyroid tissue composed of numerous various sized colloid laden follicles arranged in nodular pattern, separated by thin fibrocollagenised septa. Few follicles are cystically dilated with areas of haemorrhage and infiltration by numerous haemosiderin laden cyst macrophages. Stroma showed chronic inflammatory cell infiltrate. Features are suggestive of colloid goiter with secondary changes of haemorrhage and cyst formation. In follow-up, the patient had no more breathing difficulty on supine position and no post operative surgical complication.

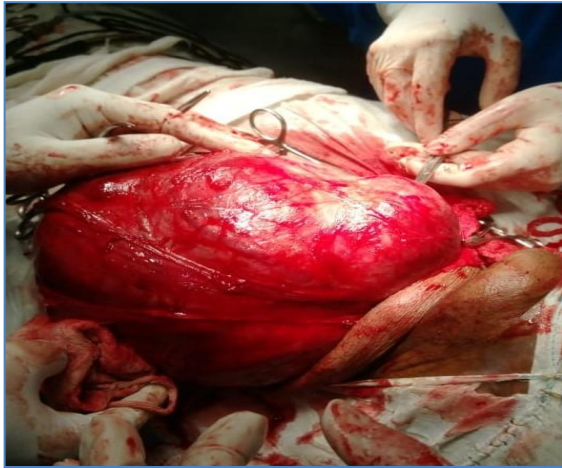
### III. Photographs :



**Fig.1:** Pre-operative picture of patient, in front view and lateral view.



**Fig.2:** post-operative picture of patient in front view and lateral view.



**Fig.4:** intra-operative picture.



**Fig.5:** post-operative specimen.

#### IV. Discussion:

A giant thyroid tumour is defined as any thyroid tumour with an average weight greater than 500gm, a diameter greater than 100mm, in which the upper end extends up to the mandible angle, the lower end extends to the sternum and both sides of the posterior border are normally sterno-cleidomastoid muscle<sup>[2]</sup>. In our case the definition of giant thyroid tumour is concurrent with the literature. In 2018 Quang Van Le et al<sup>[4]</sup>, reported case series of giant thyroid tumour published in the *Int J Surg Case Rep.*, who described the surgical treatment result of giant thyroid. Patients with giant thyroid goiters may be asymptomatic, but are usually associated with compressive symptoms such as dyspnea, orthopnea and dysphagia<sup>[5,6]</sup>. In our case report patient was having difficulty in breathing in supine position only, there was no symptom of dysphagia. Surgical management is still primary treatment for patients with giant thyroid tumor to quickly relieve compression symptoms<sup>[4]</sup>. Nodular goiter is usually multinodular lesion and surgical intervention is the major strategy for its treatment. The indications for nodular goiter include, 1) bilateral nodular goiter compresses the trachea and dyspnea is present in the supine position; 2) Multinodular goiter is accompanied by hyperthyroidism which is non-responsive to pharmacotherapy; 3) the nodule grow rapidly and have the risk of canceration; 4) the nodular goiter is giant and affect the beauty. The nodular goiter is usually accompanied by thyroid carcinoma which is difficult to determine before surgery. Thus, for patients with evident nodules in the thyroid, surgical intervention may be considered to exclude the possibility of the thyroid carcinoma<sup>[7]</sup>. The primary treatment of giant thyroid goiter with compressive symptoms is surgery<sup>[8]</sup>.

In our case the Patient was a male of 60 years with a history of 25years, surgery was done to relief compressive symptom, to avoid malignant transformation and to provide with better aesthetic. The mechanism of injury to the nerve includes complete or partial transection, traction, or handling of the nerve, contusion, crush burn clamping, misplaced ligature and compromised blood supply<sup>[9]</sup>. For patients with giant thyroid hypothyroidism is common after surgery, which usually attributed to the mis-dissection or damage to the parathyroid or the impairment of blood supply<sup>[10]</sup>. Thyroid surgery performed by surgeon specially trained for ENT and Head & Neck surgery was shown to be safer and associated with a significantly reduced rate of complication<sup>[11]</sup>. In our case there was excellent recovery with no post operative complication.

#### V. Conclusion:

Our case report shows us that colloid goiter can occur as massive as the size of 25 x 22.5 x 12 cm and still be benign tumour even over the huge span of 25 years. Surgery is the treatment of choice for the giant thyroid tumour to relieve compressive symptom. histopathological assessment of excised tumor is mandatory to rule out malignant transformation.

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