ORIGINAL ARTICLE

Non Toxic Multinodular Goitre With Thymoma: A Novel case

Ritesh Goel , Yashwant Rathore

CASE REPORT

Summary

Multinodular Goitre is a common condition in India. It often requires surgical removal either due to mass effect or cosmesis. Association of Thymic mass with Multinodular goitre is not reported elsewhere. We report a case of Multinodular goiter with associated Thymoma in a lady aged 61 years. She underwent near total thyroidectomy with sternotomy for thymectomy in same sitting.

Keywords: Multinodular goitre, Thymoma, Myasthenia Gravis, Thoracic surgery.

Case History

Patient was a woman aged 61 years. She came to Surgery outdoor with complaints of shortness of breath on lying down and dull aching chest pain for past 30 months. She was evaluated and found to have a mass in the neck gradually progressive in size. She complained of dyspnoea, NYHA grade 2, which increased on exertion. She was diagnosed with Thallesemia minor 3 months prior to her presentation. She was diabetic, hypertensive and chronic asthmatic on medication. No H/O thyroid disorders in family. Not belonging to endemic goitre areas. She also complained of dysphagia and diplopia from 12 months. Dysphagia to both solids and liquids. She was diagnosed to have Myasthenia Gravis and was on oral Pyridostigmine and Prednisolone.

On examination, there was a 12 x 12 cm swelling in front of the neck, non - tender, lobulated, multinodular, firm in consistency moving with swallowing, skin free, lower border palpable, carotid pulse laterally displaced, dull note over sternum.

Investigation

USG Neck showed enlarged heteroechoecic mass in both lobes with area of calcification. CECT showed heterogenous mass in the neck involving both lobes of thyroid with areas of calcification. Also a heterogeneously enhancing mass in anterior mediastinum, not infiltrating surrounding structures was seen (**Figure 1.** Showing heterogenous mass in neck with calcification).

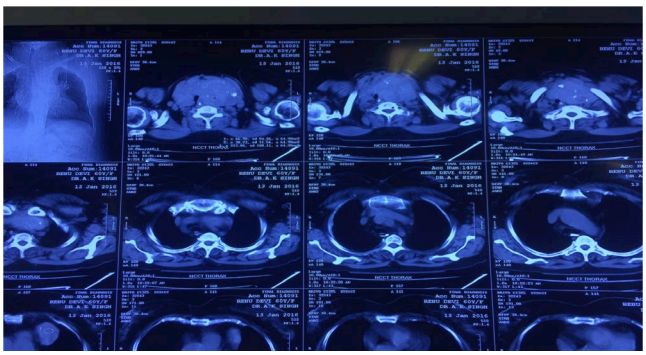

Fig. 1: CECT Film

FNAC from thyroid mass showed adenomatous goitre and from mediastinal mass showed Thymoma B1/B2. All other routine blood investigation and thyroid function tests were normal. Serum AChE levels were increased. Nerve conduction studies were performed and was consistent with Myasthenia Gravis.

Treatment

The patient underwent Near total thyroidectomy and Thymectomy using median sternotomy and collar crease incision. A large 15x10 cm multinodular goitre with anterior mediastinal

Author information
Surgery Department, AIIMS, New Delhi, India.

mass 3x3 cm with thymus attached identified (**Figure 2.** Showing specimen of multinodular goiter on the right with specimen of thymoma on the left). Thymic mass identified adherent to mediastinal pleura and was dissected off using cautery. Mediastinal ICD was placed, 2 closed suction drains were placed in the thyroid region, wound was closed in layers.

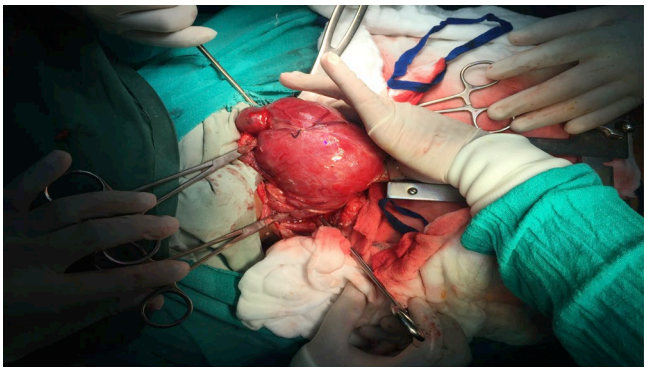

Fig. 2: Intraoperative Image

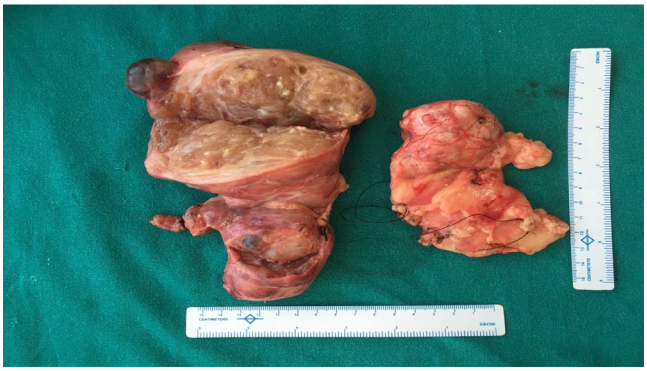

Fig. 3: Surgical Specimen

Outcome and follow up

Post operatively patient was kept on nasotracheal intubation due to difficulty in extubation. Vocal cords mobility were checked post-operatively. Patient was kept in ICU care for first 2 days post-operatively. She was started orally on POD 2 onwards. Drains were removed subsequently depending upon their output. Patient recovered well and was discharged on POD7.

Final histopathology was Multinodular goiter with Thymoma Type B1.

DISCUSSION

Thymoma is frequent neoplasm arising in anterior mediastinum . Thymic neoplasm account for upto 20 % of mediastinal tumors. Seen in age range between 40-60 years. Thymic neoplasm have equal incidence in men and women.

Thymoma is the most common anterior mediastinal tumor with incidence of 0.15 cases per 100,000 in Indian population [1] . The thymus is an anterior mediastinal organ weighing around 12 to 15 grams at birth, reaches upto 40 grams at puberty, and then involutes and persists in an atrophic state till old age [2]. Primary treatment of both conditions is surgical removal .

One third to one half of patients present with an asymptomatic anterior mediastinal mass on chest radiograph, one third present with local symptoms (eg, cough, chest pain, superior vena cava syndrome, and/or dysphagia), and one third of cases are detected during the evaluation of myasthenia gravis. Distant metastases are distinctly uncommon at initial presentation with this tumor. However, when present, the most common metastatic site is the pleura, with involvement of the kidney, bone, liver, and brain metastases infrequently seen [3].

Thymic tumors are frequently associated with paraneoplastic syndromes . Myasthenia Gravis is the most commonly associated paraneoplastic disease in thymoma . Incidence is 30% to 50% in patients with thymoma, while 10-15% patients with myasthenia have thymoma. Other than Myasthenia, Pure Red Cell Aplasia (PRCA) and Hypogammaglobulinemia (Good's syndrome) are the most frequently observed conditions, occurring in up to 5% of the patients [4].

Pre-operative evaluation involves Contrast enhanced CT scan . Tumor Markers like AFP and Beta-HCG should be done to rule out Mediastinal germ cell tumor. A tissue diagnosis pre-operatively is prudent in these cases. Features like vascular invasion, encasement and pleural invasion suggest malignancy.

Treatment involves en bloc resection of tumor, involving removal of all structures where tumor is invading. Most recurrences are found in pleural surface either due to seeding from the primary tumor or due to inadequate resection. Minimal invasive approaches like video assisted thorascopic surgeries are discouraged [5].

We are reporting the first case of non-toxic multinodular goiter with thymoma. More such case reports are required to establish any association between the two conditions.

Learning Points

1. Multinodular goiter can be very rarely associated with thymoma.
2. Patient with Multinodular goiter with complaints of dysnoea , Contrast enhanced CT scan of neck and chest should be done to look for mediastinal mass.
3. Pre-Operative tissue diagnosis must be obtained from both neck and mediastinal masses.
4. Proper surgical planning is important for optimal patient outcome.

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