

Colloid Goitre in Mediastinal Ectopic Thyroid Mass with Eutopic Thyroid: A Case Report

Kalpana Nagpal¹, Nishant Rana^{2,*}, Sudipto De³

¹MS ENT, Department of ENT and head and neck surgery, Indraprastha Apollo Hospitals, New Delhi, India.

²MS ENT, Department of ENT and head and neck surgery, Indraprastha Apollo Hospitals, New Delhi, India

³DNB Surgical Oncology, Department of Surgical Oncology, Indraprastha Apollo Hospitals, New Delhi, India

ABSTRACT

Ectopic thyroid is an uncommon entity that may occur from tongue to mediastinum that is along the line of obliterated thyroglossal duct. The authors report a case of mediastinal ectopic goitre with eutopic thyroid in a 73 years old African woman who was presented in Otorhinolaryngology outpatient department of Indraprastha Apollo Hospitals, New Delhi, India. She presented with breathing difficulty on exertion. The diagnosis was confirmed by ultrasound guided fine needle aspiration cytology and computed tomography scan of neck. She then underwent excision of ectopic thyroid tissue mass after taking a well informed and written consent from the patient. Mostly mediastinal ectopic thyroids are incidental findings but large masses can present with pressure symptoms thus necessitating excision. Mediastinal ectopic goitre may need thoracotomy or sternotomy depending upon the size and location of the mass.

Keywords: Mediastinum, Ectopic Thyroid, Colloid Goitre.

INTRODUCTION

Ectopic thyroid developed due to faulty embryogenesis is the most commonly encountered situation among all ectopic thyroid tissue which can occur anywhere along the course of the thyroglossal duct [1]. Most commonly, it occurs at the base of tongue (lingual thyroid) followed by anterior tongue, submandibular region, larynx, trachea, mediastinum and parapharyngeal space [2-4]. Mediastinum is relatively uncommon site of ectopic thyroid as compared to other sites as mentioned above. An ectopic thyroid accounts of 1% of all mediastinal masses [5]. All pathologies which affect the normal thyroid can occur in ectopic thyroid also. Interestingly, colloid goitre in ectopic thyroid is rare to find.

In this paper, we report a rare case of colloid goitre in mediastinal ectopic thyroid with eutopic thyroid in elderly African woman.

CASE PRESENTATION

A 73 year-old African woman presented with a history of breathing difficulty on exertion for the past 2 years. It was insidious in onset and progressive in nature. There was no distress or breathing difficulty at

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*Corresponding Author

Dr. Nishant Rana

MS ENT, Department of ENT and head and neck surgery, Indraprastha Apollo Hospitals, New Delhi, India, Tel: 09953863767

Email: onishant52rana@outlook.com;
nishant52rana@gmail.com.

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rest, no history of voice change, difficulty in swallowing and no visible or palpable neck mass. General physical, oral, oropharyngeal, laryngeal and neck examination was normal. Her cardiac and respiratory system examination was normal. A computed tomography of neck was performed, which revealed a retrosternal (upper mediastinal) smooth mass compressing the trachea (Figure 1). Ultrasonographic guided fine needle aspiration cytology was suggestive of goitre. A thyroid scan (^{99m}Tc) showed a faintly visualized thyroid gland with reduced 20 minutes technetium uptake and an area of increased vascularity in the anterior mediastinum (a mass lesion) (Figure 2). Thyroid function

test was normal. A local excision of the mass was planned under general anesthesia. A 3cm incision approximately 1cm above suprasternal notch was made and mass excised in toto without needing sternotomy (Figure 3). The mass measured 3x2.5x2cm in dimensions (Figure 4). The postoperative period was uneventful. A drain was put which was removed on third post-operative day. The surgical histopathology was diagnostic of colloid goitre in ectopic mediastinal thyroid.

As this patient had normally placed functional thyroid also, no hormone replacement therapy was required.

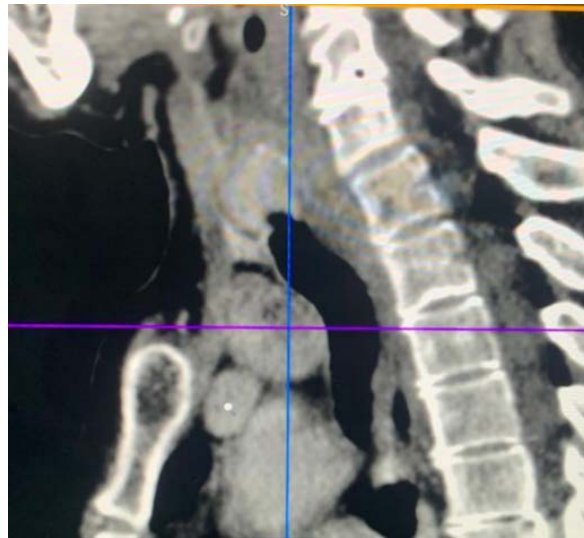


Figure 1. Computed tomography scan neck (sagittal view) showing mediastinal mass with tracheal compression.

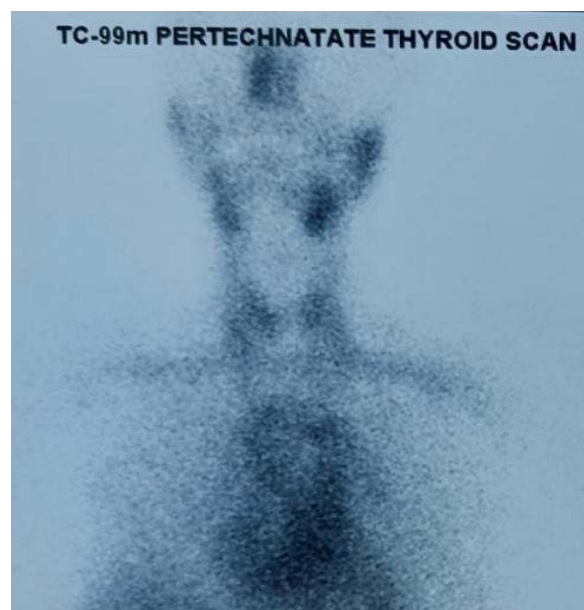


Figure 2. Thyroid scan (^{99m}Tc) image showing thyroid gland and an area of increased vascularity in the anterior mediastinum.



Figure 3. Postoperative image showing the closed incision (with drain in-situ) just above suprasternal notch.



Figure 4. Image showing excised specimen of mediastinal ectopic thyroid. Surgical histopathology was suggestive of colloid goitre.

DISCUSSION

Ectopic thyroid tissue signify normal or abnormal thyroid tissue found within the neck but other than its usual position i.e. anterolaterally to the second and fourth tracheal cartilages [6]. Ectopic thyroid may be the only functioning thyroid tissue or less commonly associated with normally located thyroid (eutopic thyroid) [1]. In case of ectopic thyroid with eutopic thyroid, no vascular or anatomical connections are usually seen among two of them [7]. The prevalence of ectopic thyroid is approximately 1 per 100,000 - 300,000 persons, is more common in females and occurs during childhood or adolescence [8].

Rosai and Ackerman classified ectopic thyroid as follows [9]:

- A) Ectopic thyroid due to faulty embryogenesis-most common.
- B) Ectopic hyperplastic thyroid tissue in Grave's disease.
- C) Thyroid tissue mechanically implanted secondary to neck surgery or trauma.
- D) Accessory thyroid nodule located peripherally which might have loses connection with the main gland or missed by the surgeon.
- E) Thyroid tissue development in cervical lymph node due to metastasis (in thyroid carcinoma).

Ectopic thyroid tissue may go through the same pathological transformations as the eutopic thyroid tissue. Ectopic thyroid may lead to thyrotoxicosis, benign or malignant changes [10-12]. Malignancy in ectopic thyroid is extremely rare [13]. Ectopic thyroids are asymptomatic in majority of cases. Symptoms are usually related to the enlargement of the ectopic thyroid tissue. Patients with mediastinal ectopic thyroid may present with foreign body sensation in lower neck, dysphagia, choking episodes, noisy breathing or dyspnea.

Thyroid scanning with technetium-99m is the investigation of choice in suspected cases of ectopic thyroid. It is crucial to confirm the presence and location of ectopic thyroid including the presence or absence of normally located thyroid [14]. However, fine-needle aspiration cytology (FNAC), ultrasonography and imaging can be used for further evaluation. FNAC is one of the accurate methods for preoperative diagnosis of suspected ectopic thyroid tissue for neck and submandibular locations but due to anatomical restrictions FNAC from suspected mediastinal ectopic is challenging in some cases. CT scan can provide detailed picture of dimensions of mass and relation to the adjacent anatomical structures.

Most mediastinal ectopic thyroid diagnosed incidentally and do not require any treatment. Treatment basically depends on several factors like size, location, local symptoms, thyroid functional status and histopathology of the tissue [15]. Ectopic thyroids causing obstructive symptoms like dysphagia, dysphonia, and dyspnea or choking sensation may require surgical excision [16]. Excision may require thoracotomy, sternotomy or simply by low neck incision depending upon the location and size [17].

CONCLUSION

Though it is rare entity, a mediastinal ectopic thyroid with colloid goitre must always be kept as one of the differentials of upper mediastinal mass causing local symptoms and surgical excision is recommended for them.

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DISCLOSURE OF INTEREST

The authors disclose no competing interest and no conflicting interests.

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