



## A RARE CASE OF ECTOPIC THYROID MIMICKING THYROGLOSSAL CYST APPEARING AS NORMAL THYROID MORPHOLOGICALLY

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### ABSTRACT

Ectopic thyroid tissue is a rare aberration of development in which thyroid tissue is seen anywhere other than its normal position i.e along the course of thyroglossal duct, in the neck laterally also in distant places such as mediastinum. Ectopic thyroid is itself rare, and ectopic thyroid along with normal thyroid mimicking thyroglossal cyst is rarest and only very few cases reported. We report a 14 year male who presented with mass in suprahyoid region associated with pain. On exploration mass was found appearing as normal thyroid which is excised in toto and histopathology revealed it contains thyroid tissue. Conclusion: The rarity of the ectopic thyroid presenting as neck mass simulating thyroglossal cyst with morphological similarity to thyroid has been highlighted, and need for its complete excision to rule out malignancy.

### INTRODUCTION

Ectopic thyroid is a rare aberration during embryological development that results in presence of thyroid tissue at sites other than its normal cervical position [1]. It can appear at any location along the course of thyroglossal duct from foramen caecum to mediastinum [2]. Most of the time ectopic thyroid is located between foramen caecum and normal thyroid [3]. It can also be present at distant places like mediastinum and subdiaphragmatic organs [4]. Commonly seen in younger females [5]. Ectopic thyroid is itself rare and ectopic thyroid along with normal thyroid mimicking thyroglossal cyst is rarest that too in a male patient and very few cases been reported.

### CASE PRESENTATION

A 14 year old male presented with swelling in the suprahyoid associated with pain. He noticed swelling at the

age of 10 years but was asymptomatic. Since 1week he started having pain. On examination with neck extension a single swelling present in the suprahyoid region with visible thyroid in its normal position (Fig.no: 01). Swelling was firm to palpate with mild tenderness. Overlying skin is normal and it moves with deglutition as well as with protrusion of tongue. Patient investigations were normal and patient been posted for surgery for excision of mass. Transverse incision was taken and opened in layers to reach deep cervical fascia which is opened along midline and muscles are retracted to reveal mass morphologically mimicking normal thyroid tissue which was excised in toto (Fig.no: 02 and 03). Hemostasis achieved drain placed and incision closed in layers using subcuticular sutures, drain fixed and connected to vacuum suction. Patient withstood procedure well. Drain was removed after 48 hours and patient post-operative period is uneventful.



Specimen sent for histopathological examination which confirmed the presence of thyroid tissue

**Figure 1. Showing swelling in suprahyoid region and normal thyroid in its normal position**



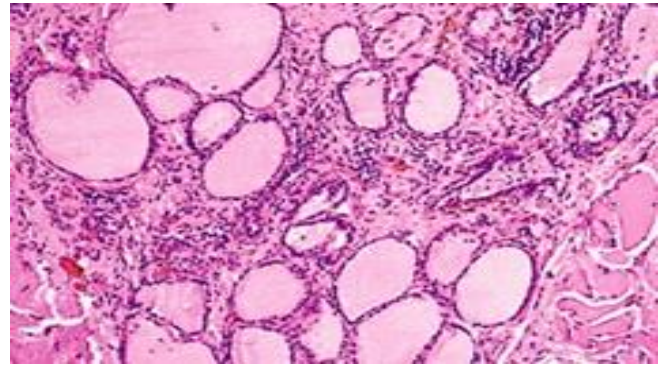
**Figure 2. Showing mass mimicking thyroid gland**



**Figure 3. Mass after removal in toto**



**Figure 4. Histopathology showing presence of thyroid tissue**



## DISCUSSION

Ectopic thyroid was first described in 1869 by Hickman in a newborn which got suffocated after 16 hours due to presence of lingual thyroid. The thyroid gland is located in the neck region lies in the anterior neck region between the 2nd and 5th tracheal rings. It develops on 24<sup>th</sup> day of gestation and is the body's first endocrine gland to develop [6]. Ectopic thyroid is a rare aberration of embryological development of thyroid gland during its passage from the floor of the primitive foregut to its final pretracheal position with reported incidence of 1 in 100,000. It can appear at any location along the course of thyroglossal duct from foramen caecum to mediastinum. Most of the time ectopic thyroid is located between foramen caecum and normal thyroid. It can also be present at distant places like mediastinum and subdiaphragmatic organs. In that lingual position is commonest. A variety of other sites have also been reported including lung, duodenum, gall bladder, porta hepatis, pancreas, small intestinal mesentery, adrenal gland, parotid gland, sella turcica and skin [7]. Genetic research has shown that the gene transcription factors *TITF1* (*NKX2-1*), *FOXE1* (*TITF2*) and *PAX8* are essential for thyroid morphogenesis

and differentiation. Mutation in these genes may be involved in abnormal migration of the thyroid. It has also been shown in gene-targeting experiments that *FOXE1* is required for thyroid migration and that mice homozygous for *FOXE1* mutations show a sublingual thyroid [8].

Ectopic thyroid in the suprahyoid region is rarely documented and is usually associated with a thyroglossal duct cyst [9]. Here we encountered a rare case of ectopic thyroid presenting as submental swelling not associated with thyroglossal duct cyst. It is usually painless but in our case it presented with pain. They can also have features of hypothyroidism as well as hyperthyroidism. The differential diagnosis includes thyroglossal duct cyst, epidermal cyst, lymphadenopathy, lipoma, lymphangioma, sebaceous cyst, cystic hygroma, dermoid cyst, midline branchial cyst and neoplasms.

Ectopic thyroid carries rare possibility of risk of malignancy so surgical removal is proposed treatment. Ultrasound can give presence of normal thyroid. Thyroid scintigraphy is best method of detecting ectopic thyroid and CT and MRI give extension of the ectopic thyroid. FNAC can be done but results in bleeding in most of the cases.

## CONCLUSION

The rarity of the ectopic thyroid presenting as neck mass simulating thyroglossal cyst with morphological

similarity to thyroid has been highlighted, and need for its complete excision to rule out malignancy.

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