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Case Report

Triple ectopic thyroid-a rare case report

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ABSTRACT

The ectopic tissue of the thyroid gland along the descent of thyroglossal duct is a rare congenital aberration with or without the presence of normal thyroid gland. Single or dual ectopic thyroid has been reported. Three ectopic focuses at different locations are extremely rare. We present a rare case report of twenty years old female who presented with swelling over the anterior aspect of the neck mimicking thyroglossal cyst. Up on imaging evaluation ectopic thyroid at three different levels were diagnosed by computed tomography (CT) neck. Hence surgery was avoided and patient was managed with thyroxine supplement and follow up.

Keywords: Aberrant thyroid, Thyroglossal tract, Iodine scan, Lingual thyroid

INTRODUCTION

The first endocrine gland to develop by 24th day of gestation is the thyroid gland. Any abnormal growth of thyroid tissue can lead to ectopic thyroid along the descent path of the thyroglossal duct.[1] Ectopic thyroid is defined as the presence of thyroid tissue in a site other than its usual location over pre-tracheal region. The prevalence of ectopic thyroid tissues ranges between 7% to 10%. Lingual thyroid is the most common ectopic thyroid accounting for 90% of all cases with a prevalence between 1: 100000 and 1: 300000 and a clinical incidence between 1: 4000 and 1: 10000. Sublingual, submandibular, lateral cervical, axilla, palatine tonsil, carotid bifurcation and pituitary gland are other locations of ectopic thyroid. There have been reports of dual ectopia, but only three cases of triple ectopic thyroid have been reported, with our case being the fourth one to be reported with triple ectopic thyroid in a twenty-years-old female patient.[1,3]

CASE REPORT

A 20-year-old female presented with gradually increasing midline swelling over anterior aspect of neck, with history of loss of appetite, weight gain and menorrhagia for 5 years. Clinical examination revealed 3x2 cm swelling over anterior aspect of neck, which moves with deglutition and protrusion of tongue. Thyroid function test results showed values of FT_3 3.69 ng/dl, FT_4 1.01 ng/dl and TSH 15.38 mIU/l suggestive of hypothyroidism, Ultrasonogram of neck was suggestive of thyroglossal cyst with absence of thyroid gland in normal location. Hence proceeded with CT neck which showed hyperdense mass lesion over base of tongue, suprahyoid region and infrahyoid region along the entire length of thyroglossal tract, largest size measuring 2.9 x 1.9 cm (Figure 1 to 5). Since the patient presented with features of hypothyroidism with no compressive symptoms, Patient was managed conservatively with Eltroxin replacement of 100 mg and follow up.

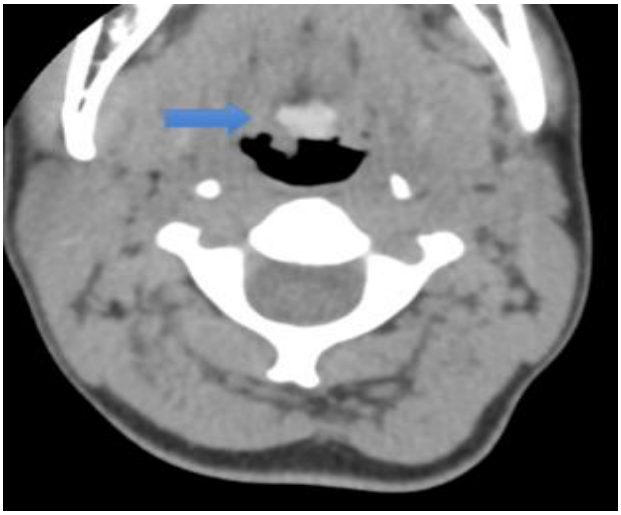

Figure 1: Axial CT neck of ectopic thyroid at the base of tongue region.

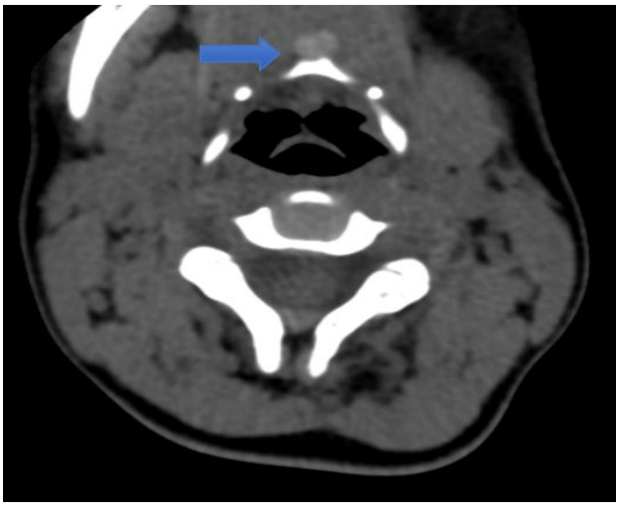

Figure 2: Axial CT neck of ectopic thyroid at the suprahyoid region.

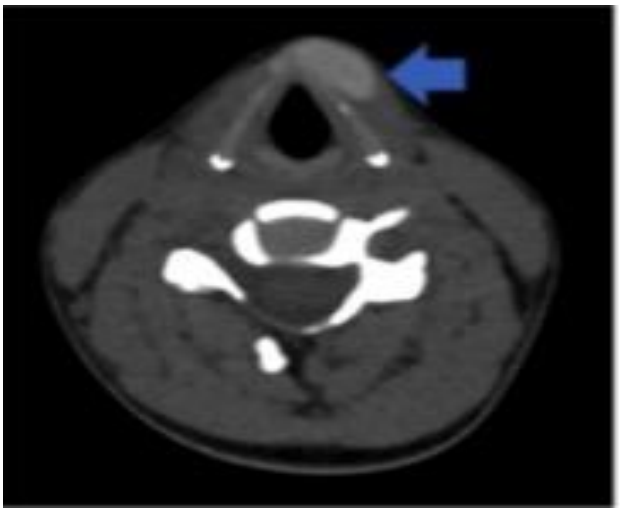

Figure 3: Axial computed tomography neck showing ectopic thyroid at the infrahyoid region.

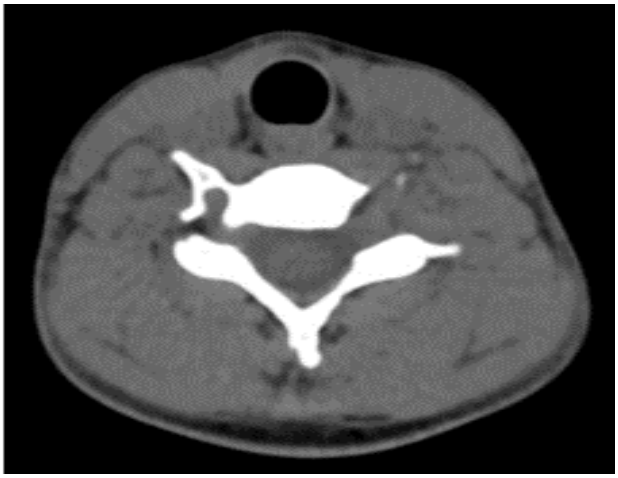

Figure 4: Normal location of thyroid region with absence of thyroid gland.

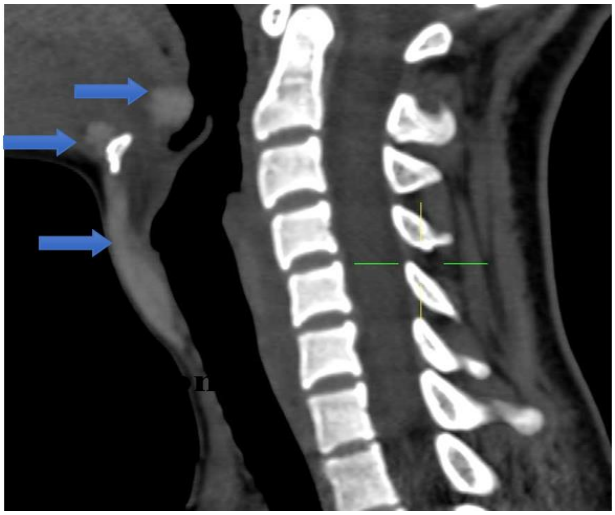

Figure 5: CT sagittal section of triple ectopic thyroid at three different regions.

DISCUSSION

The ectopic thyroid tissue refers to the presence of thyroid tissue other than its normal pre-tracheal location. Ectopic thyroid glands are most frequently found at the base of the tongue, just posterior to the foramen cecum.[2-4] Etiology of ectopic thyroid is unknown in majority of the time. However, few described evidence suggests that, this anomaly is caused by abnormal embryologic development and/or gland migration.[5] As a result, thyroid tissue can be entirely or partially located at the base of tongue. A possible mechanism has been suggested for mutations in the thyroid transcription factor 2, which is required for the thyroid gland to migrate down.[6] Thyroid dysgenesis (developmental abnormalities) encompasses both ectopic thyroid glands as well as agenesis or hypoplasia, and is frequently associated with congenital hypothyroidism.[7] There can be no functioning Thyroid tissue in the neck up to 75 per cent of patients with ectopic thyroid.[8] Therefore the patient can develop

hypothyroidism as the disease progresses. Most of the patients with ectopic thyroid are euthyroid or hypothyroid, may also present with compressive symptoms which includes dysphagia, dyspnoea and dysphonia most commonly seen in lingual thyroid.[9]

Technetium-99m is the gold standard for diagnosing ectopic thyroid in neck and also in other uncommon regions.[10] CT scan can aid in understanding the extent of lesion and location in neck region, the ectopic thyroid tissue appears to be hyperdense on non-CT images because of the iodine content in ectopic tissue. It can also be a useful tool in differentiating Ectopic thyroid from thyroglossal cyst as in our case. FNAC is indicated and mandatory only in cases with suspicious of malignancy.

Incidence of developing malignancy, most commonly papillary carcinoma is reported to be 1%.[10] Etiology of malignancy arising from ectopic thyroid is not well understood.[11] Asymptomatic patient does not require any treatment, but however thyroxin replacement may be required in hypothyroid patients. Surgical excision would validate only in patients with pressure symptoms or FNAC suggestive of malignancy. Otherwise, conservative management with close follow up is must, owing to risk of malignant transformation. Our case was a rare entity with triple ectopic thyroid with associated hypothyroidism, which required thyroxin replacement. Also, thyroxine supplement would suppress TSH levels, which is responsible for malignant transformation of ectopic thyroid tissues.

CONCLUSION

Triple ectopic thyroid is a very rare entity in ectopic thyroid, mostly presenting with hypothyroid features or pressure symptoms like dysphagia, dyspnoea and dysphonia. Technetium-99 scan is the gold standard investigation in locating ectopic thyroid. Thyroxine replacement is the treatment of choice in most of the patients, whereas surgical excision is reserved in patients with pressure symptoms and malignant transformation.

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