

ECTOPIC THYROID AT BASE OF THE TONGUE WITH A NODULE- A RARE CASE REPORT

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PRESENTATION OF CASE

A 54-year-old male patient came for routine ultrasonography with complaint of painless swelling in the neck, which is above the thyroid location and was progressively increasing. Thyroid profile was showing increased T3 and T4 levels.

USG Findings- Ultrasonography was done using 7.5 Hz linear array transducer for both gray scale and Doppler imaging. Thyroid gland noted with thyroid nodules in both the lobes of the gland. There is evidence of an oval-shaped lesion noted above the thyroid gland, which is showing equal echogenicity as of thyroid gland measuring 2.4 x 1 cm taking peripheral flow on colour Doppler with few cystic spaces in it. FNAC of the above-mentioned lesion from ectopic location has been performed, which showed evidence of thyroid nodule from the ectopic thyroid location.

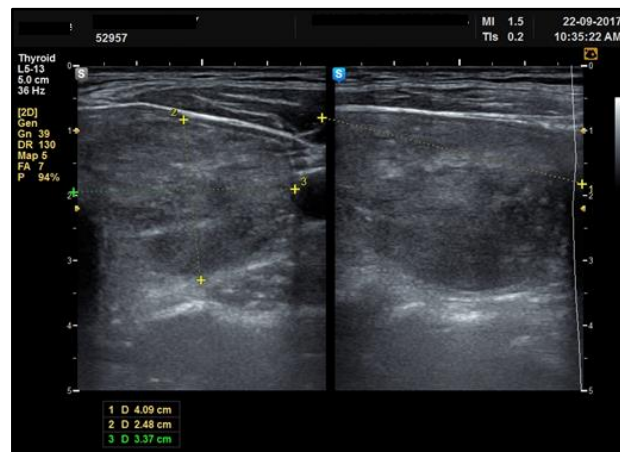


Image 2. Showing Few Nodules in Both the Lobes of Thyroid Gland

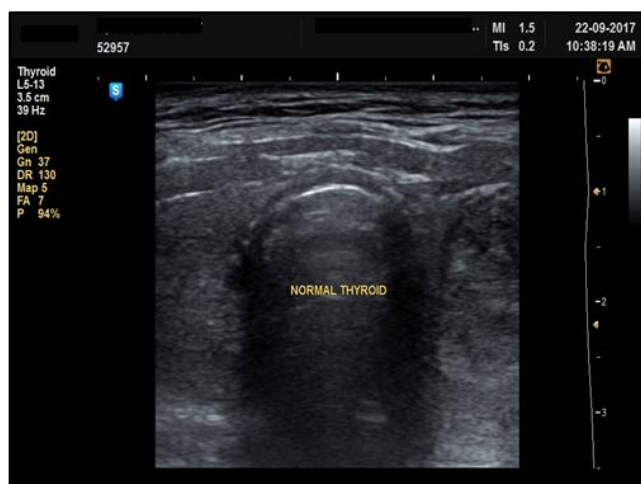


Image 1. Showing Normal Thyroid Gland in Usual Location

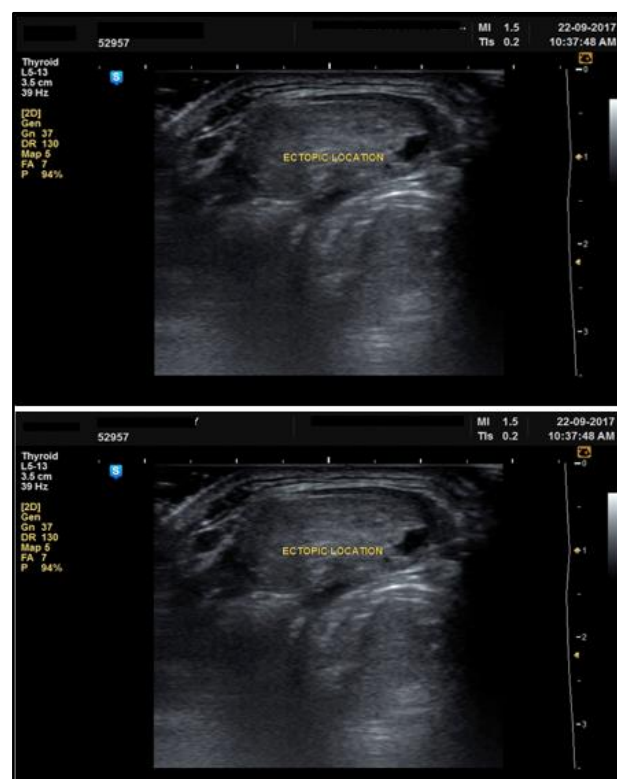


Image 3 and 4. Showing Nodule in Ectopic Location

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Image 5. Clinical Image of the Patient

Note- CT and MRI was not performed as the patient was not affordable and diagnosis was evident with USG and FNAC.

DIFFERENTIAL DIAGNOSIS

Metastatic thyroid carcinoma, lymphatic malformation, epidermoid cyst, abscess, branchial cleft cyst, saccular cyst, squamous cell carcinoma, submandibular gland tumour, parathyroid adenoma, metastatic lymph node, lipoma, neurofibroma, carotid body tumour, cystic hygroma, primary soft tissue tumour and infections (like tuberculosis and syphilis), cervical thymic lesions like accessory cervical thymus, cervical thymic cyst, undescended cervical thymus, ectopic thymus and cervical mediastinal thymus can be considered as differential diagnosis for this case.

PATHOLOGICAL DISCUSSION

Ectopic thyroid tissue is a rare developmental¹ abnormality involving aberrant embryogenesis of the thyroid gland during its passage from the floor of the primitive foregut to its final pretracheal position. Its prevalence is about 1 per 1,00,000-3,00,000 people rising to 1 per 4000-8000 patients with thyroid disease. However, in autopsy studies, the prevalence ranges from 7 to 10%. More than 440 cases have been reported to date. In 70-90% of cases, it is the only thyroid tissue present. Ectopic thyroid is most common in females, especially in populations of Asian origin. It may occur at any age from 5 months to 40 years, but it is most common at younger ages.²

The thyroid gland appears after the 3rd week of embryonic development at the middle of the floor of the primitive pharynx (foramen cecum) and then migrates along the thyroglossal duct to reach its final anatomical position to the seventh week. Any disruption of this migration can result in ectopic thyroid. The lingual thyroid represents 90% of ectopic thyroid. In 70% of ectopic thyroid, the gland is not found in orthotopic position. The prevalence of ectopic thyroid is 1/1,00,000-3,00,000 of the normal population, most frequently affect women, especially during adolescence and pregnancy with a sex ratio female/male = 4/1. The preferred age of onset of clinical symptoms is 40 years with two statistical peaks at 12.5 and 50 years.^{3,4}

Pathogenesis- Pathogenesis is not clear in ectopic thyroid, some studies and few authors imply it as few maternal

immunoglobulins directed against thyroid antigens, which causes the migration of the tissue.

Molecular Studies- NKX 2-1, NKX 2-5 and PAX 8 are genes, which are responsible for thyroid development and mutations in them can cause abnormalities.

Imaging in CT and MRI- CT demonstrates as hyperdense soft tissue mass of the same attenuation as normal thyroid tissue. It is hyperdense on account of the accumulation of iodine within the gland.^{5,6}

Following contrast administration, the entire gland demonstrates prominent homogeneous enhancement (again just like the normal thyroid gland).

MRI- Usually seen as a well-defined mass with no invasive features.

Signal characteristics-

T1- Iso to hyperintense to muscle.

T2- Can vary from hypo to iso to hyperintense to muscle.

T1C+ (Gd)- Homogeneous contrast enhancement.⁷ CT and MRI helps in preoperative assessment of the case in view of surgical excision.

Tc-99 Thyroid Scan- For further evaluation, Tc-99/iodine-123 scan is performed to confirm the topographic evidence of the gland and rules out orthotopic thyroid gland. Thyroid scan with radioisotopes further helps in ruling out other close differential diagnosis of neck masses as the radioisotope is seen only in ectopic thyroid tissues. The main drawback of this scan is tracer gets accumulates in salivary glands and makes difficult in visualising small ectopic thyroid tissues.

Ultrasonography- Can detect ectopic thyroid tissues and nodules if any, as in the present case report, as the nodule is bigger in size and help in localising the location of the ectopic thyroid tissue. Colour Doppler imaging helps in further evaluation as ectopic tissue picks up the colour.

DISCUSSION OF MANAGEMENT

The treatment for this alteration can be therapeutic or surgical and must take into account the physiological needs for thyroid hormones and the severity of the symptoms. The clinical control of ectopic thyroid includes observation, suppressive therapy and treatment with radioactive iodine.

Surgical intervention is indicated for symptomatic patients who present dyspnoea, dysphagia, difficulty in speaking or obstructive sleep apnoea.^{8,9}

FINAL DIAGNOSIS

With the above-explained clinical and imaging features, the final diagnosis is ectopic thyroid at base of the tongue with a nodule.

Our case reports highlights are, as this condition is more commoner in females, the patient here in our case is male.

Usually, ectopic thyroid is more commoner up to 50 years of age, but the patient in our case is 54 years old. A

nodule arising from the ectopic thyroid tissue can also be considered rare in our case.

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