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Case Report

A case of dual ectopic thyroid

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ABSTRACT

The presence of two ectopic foci of thyroid tissue in a single patient is an uncommon presentation. Ectopic thyroid reportedly has a low incidence. We are reporting here a case of dual ectopic thyroid present in the lingual and sub hyoid region in a 33 years old lady with short stature and hypothyroidism. Ultrasonography of the neck had revealed no thyroid gland in its normal anatomical position. The presence of ectopic thyroid tissue in the lingual and sub hyoid region were confirmed with a technetium-99m sodium per technetate thyroid scan.

Keywords: Ectopic thyroid, Hypothyroidism, Technetium-99m sodium per technetate thyroid scan

INTRODUCTION

Ectopic thyroid occurs in 1:3000 cases of thyroid diseases.[1] It is uncommon and arises because of a defect in the development of the thyroid gland. The normal anatomical position of the thyroid gland is usually in the pretracheal position. When thyroid tissue is present at sites other than its normal anatomical position it is referred to as ectopic thyroid. This happens when there is an abnormality in the normal descent of the median thyroid diverticulum from the posterior third of the tongue to its final pretracheal location. This normal descent usually occurs on the 3rd to 7th week of embryonic life.

The most common site for ectopic thyroid tissue is usually at the base of the tongue. This is referred to as the lingual thyroid. Patient was a 33 years old lady who had ectopic thyroid at two various locations. It is very rare for a patient to have two ectopic foci of thyroid tissue. Only 33 cases of dual ectopic thyroid have been reported in world literature to the best of our knowledge.[2] The diagnosis of dual ectopic thyroid in our patient was established with the use of Ultrasonography (USG) and technetium-99m (Tc-99m) per technetate thyroid scan.

CASE REPORT

Patient was a 33-years-old lady who presented with a midline swelling in the anterior neck which she first noticed two years ago. It was progressively increasing in size since then. She gave history of occasional pain together with pressure symptoms of dysphagia and dyspnea. There were no clinical features suggestive of hypothyroidism or hyperthyroidism. On examination, patient had a well-defined, firm swelling of 3 × 2.5 cm located at the sub-hyoid region (Figure 1) which moved well with deglutition. Examination also revealed the absence of a palpable thyroid gland in its normal site. Her thyroid function tests reported an elevated thyroid stimulating hormone (TSH) level with a normal free triiodothyronine (FT3) and low free thyroxine (FT4) levels suggestive of hypothyroidism. USG of the neck showed the presence of a mixed solid cystic swelling in the sub hyoid region and absence of a normally located thyroid gland. Initial clinical examination did not reveal any obvious lingual swelling. The fine needle aspiration of the sub-hyoid swelling was done and report came as hyperplastic nodule with cystic degeneration. Technetium 99m per technetate thyroid scan with 2 mCi (74 MBq) was done. This revealed an enhanced uptake in the

lingual and sub-hyoid regions, suggestive of a dual ectopic thyroid (Figure 2). There was no presence of thyroid uptake of radioisotope highlighting its absence in the normal anatomical position.

Figure 1: Sub hyoid ectopic thyroid.

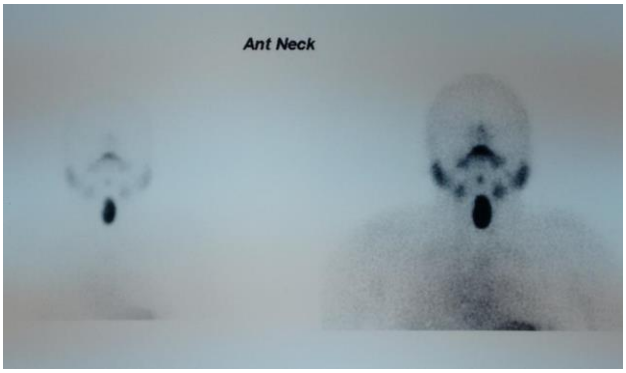

Figure 2: Technetium 99m per technetate thyroid scintigraph.

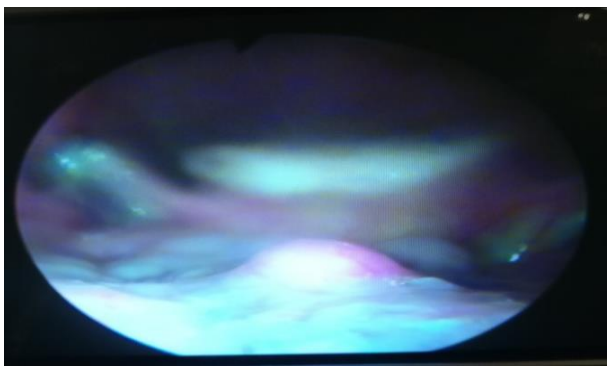

Figure 3: Lingual thyroid as visualised on video direct laryngoscopy.

Video direct laryngoscope examination showed the presence of the lingual thyroid (Figure 3). Patient was initially treated with thyroxine replacement therapy and subsequently underwent surgical excision of the sub hyoid thyroid tissue in view of her pressure symptoms (Figure 4).

Figure 4: Sub hyoid thyroid after excision.

Histopathological examination (HPE) reported a 3x2x1 cm soft tissue lesion which on microscopic examination confirmed the presence of thyroid parenchyma composed of thyroid follicles of varying sizes lined with cuboidal to flattened epithelium and filled with colloid (Figure 5). The histopathology report was consistent with that of ectopic thyroid tissue.

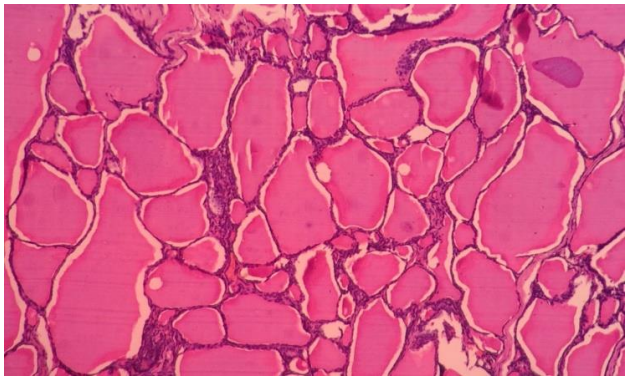

Figure 5: HPE of excised ectopic sub hyoid thyroid.

DISCUSSION

Ectopic thyroid was first described by Hickman in 1869. It was in a newborn who suffocated for 16 hours after birth because of a lingual thyroid causing upper airway obstruction.[3] Ectopic thyroid refers to the presence of thyroid tissue in positions other than its normal pretracheal location in the neck. They are commonly located in the midline along the tract of the thyroglossal duct. The most common location of ectopic thyroid is in the posterior 1/3rd of tongue. This is the lingual thyroid. This accounts for 90% of all cases ectopic thyroid.[4] Other sites for ectopic thyroid include the suprahyoid and sub-hyoid positions, thyroid tissue in a lateral cervical cyst, and in the substernal region. Ectopic thyroid has also been reported in the larynx, trachea, oesophagus and even in the ovaries. Existence of ectopic thyroid glands at two various locations is very rare with a total 33 cases being

reported.[2] Lingual or sublingual thyroid is the most common ectopic location with the sub hyoid position being the most common site of a second ectopic thyroid.[4]

Ectopic thyroid is most commonly seen in females.[5] Most of the patients with ectopic thyroid are asymptomatic. Patients with ectopic thyroid usually have insufficient hormone production resulting in a hypothyroid state.[6] When there is an increased demand for thyroid hormone as in during adolescence or pregnancy, ectopic thyroid tissue can enlarge in size and present as a neck swelling. Symptoms can arise in view of the size and location of the ectopic thyroid tissue as well as due to the associated thyroid dysfunction.

Ultrasound is the most useful investigation for the initial evaluation of a neck mass. Here a high-resolution ultrasound scan can help determine the presence or absence of a normally located thyroid gland and further evaluate for the presence of an ectopic thyroid. Thyroid Scintigraphy, using Tc-99m, is the most important diagnostic tool to help identify and locate ectopic thyroid tissue apart from confirming the absence of a normal thyroid gland. FNAC can be done as it helps confirm the benign nature of an ectopic thyroid swelling and thus rule out malignancy.

Depending on the biochemical status of the thyroid gland, treatment with thyroxine is prescribed. Hypothyroid patients with ectopic thyroid are usually prescribed thyroxine which not only helps in achieving euthyroid status but also decrease the size of the ectopic thyroid swelling. Ectopic thyroid may be the only functioning thyroid tissue in the body. Therefore, surgery is rarely indicated unless the patient presents with pressure or obstructive symptoms, or when malignancy is suspected.

In this case, the diagnosis was suspected when the patient presented with a midline sub-hyoid swelling, moving with deglutition and a thyroid function test showing hypothyroidism. Uultrasound of neck together with the Technetium-99m thyroid scintigraphy done on the patient helped confirm the dual site of ectopic thyroid tissue. Our patient underwent excision of the sub hyoid thyroid tissue in view of the cosmetic and pressure symptoms. Post-surgery, patient was placed on lifelong thyroid replacement therapy as thyroxine helps regress the size of the lingual thyroid.

CONCLUSION

To have two ectopic foci of thyroid tissue to be present simultaneously in a patient is not common. A thorough clinical examination together with the help of thyroid scintigraphy helps locate the sites of ectopic thyroid which can be missed on routine examination. Surgical treatment is rarely indicated in these patients. Treatment with thyroxine therapy is usually appropriate. Thyroxine is given lifelong to suppress the TSH levels and decrease the size of the thyroid swelling.

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