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Case Report

AN UNUSUAL CASE OF ECTOPIC THYROID TISSUE IN SUBMANDIBULAR REGION

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ABSTRACT

Ectopic thyroid tissue may be found in any location along the path of migration from foramen ceacum to mediastinum. Most frequent finding is lingual thyroid. Ectopic thyroid tissue in submandibular region is very rare. Majority of patients have the onset of symptoms as early as birth or as late as 7th decade. We are presenting a rare case of 50 year old female patient who reported with chronic ulceration of right buccal mucosa and right sub mandibular swelling which was initially diagnosed as carcinoma of buccal mucosa with palpable right sub mandibular lymph nodes. Later with detailed medical history, clinical signs and symptoms and investigations CT, Ultrsonography and Ultrasound guided FNAC a surprise diagnosis of ectopic thyroid tissue in the sub mandibular region was made. There are instances where some of the patients without a demonstrable main thyroid gland could have thyroid nodules in other sites which have to be carefully diagnosed and recognized.

Key words; ectopic thyroid, submandibular space thyroid

INTRODUCTION

Ectopic thyroid gland is defined as thyroid tissue not locatedanterolaterally in the second to fourth tracheal cartilages.The lingual location is most common, accounting for 90% of reported cases. An ectopic submandibular thyroid gland and intra-trachea is also very rare .Other rare sites of an ectopic thyroid gland include the mediastinum, esophagus, lung, heart, aorta, and abdomen. It is commonly encountered in females and noticed in any age group .The pathogenesis of ectopic thyroid is still an enigma .Thyroid ectopia may be associated with thyroid dysfunction, which could be either hypofunctionor hyperfunction[1,3,5,7,9,11 12]

Embryologically the thyroid gland is derived from 2 anlages:
At the end of the third embryonal week, the anlage of the thyroid gland is formed as an endodermal diverticulum in the median plane at the base of the pharyngeal gut.In adults this spot presents as the foramen caecum, found at the junction of the derivatives of the first and the second branchial arches at the tip of the sulcus terminalis .In the course of embryonal development, the anlage of the thyroid gland, a bilobular diverticulum, descends as a result of the formation of the skull and tongue and as a result of the growth of the embryo

The thyroid anlage remains connected with the base of the pharynx by means of a narrow channel, theso-called thyroglossal ductIn the fifth embryonal week this duct begins to involuteUntil the seventh embryonal week the thyroid anlage continues to migrate, passing by the hyoid bone and laryngeal cartilages until it reaches its final location in front of the developing trachea at the level of the second and third tracheal cartilagesAt that time the gland consists of two lateral lobes and a small median lobe formed from the remnants of the thyroglossal duct
The parafollicular C-cells that produce calcitonin are derived from the neural tube and migrate into the thyroid gland secondarily.

- a large median endodermal anlage
- two lateral anlages

Median anlage produces most of the thyroid parenchyma
Lateral anlage is derived from the fourth pharyngeal pouch and contributes 1% to 30% of the thyroid weight Commonly, failure in the descent of the median anlage results in a lingual thyroid gland .In rare cases, failure of the lateral anlage to fuse with the median anlage can result in lateral ectopic thyroid gland

CASE REPORT

50 years old female patient reported with a chief complaint of pain and ulceration on right buccal mucosa and a swelling below right lower jaw region since past 2 months. Personal history revealed tobacco chewing and quid habit from past 25 years. She also noticed a swelling in her right sub mandibular region, which has gradually increased in size and reached the present state. There was no significant past medical or dental history. Intra oral examination revealed ulcerative growth seen on right buccal mucosa, of size about 3.5cmx3cm.submandibular mass was firm in consistency size of about 2x2 cm.non fluctuant ,skin over the swelling was normal. Based on history a provisional diagnosis of carcinoma buccal mucosa with submandibular lymphnode involvement was given.

LAB**INVESTIGATIONS;**

- IOPA : revealed mild bone loss mesial to 46.

OPG : no significant abnormality was detected

U S G neck : revealed normal right sub mandibular lymph nodes and thyroid adenoma .
Ultrasound guided FNAC : gave an impression of Thyroid - Negative for malignant cells .- Adenomatous goiter.
C T scan : revealed an impression of solitary thyroid nodule in right sub mandibular region
Thyroid profile : revealed
TT3 : 180 ng/dl, bordering the upper limit (70-204)
TT4 : 13.5 µg/dl, exceeding the upper limit (4.6-12.5)
TSH :<0.01 µIU/ml (0.37-6.0)

Based on lab investigation final diagnosis of

Ectopic thyroid tissue in right sub mandibular region and Cabuccal mucosa was given

Management;

Thyroid hormone levels were managed using 'Methimazole' for two months .Patient was operated ,Buccal mucosa excision with marginal mandibulectomy was done. Patient was advised to continue thyroid related medication for another 4-5 months and was put under regular follow up

Figure1: SHOWING SWELLING IN THE SUBMANDIBULAR REGION 2X2 CM

Figure 2: SHOWING ULCERATIVE GROWTH IN THE BUCCAL MUCOSA

Figure 3: CT SCAN SHOWING SOLITARY THYROID NODULE IN THE SUBMANDIBULAR REGION

DISCUSSION

On reviewing the literature, it was found that most of the early cases reported were detected in the neck and contained malignant thyroid tissues. Hence, they were termed as lateral aberrant thyroid tumors. Some of the authors attributed these to metastatic deposits of primary thyroid carcinoma (papillary) while others concluded that these are primary tumors of an aberrant thyroid gland[6,7,8,9,10,11]

Later benign ectopic thyroid tissues were reported by different authors who concluded that not all ectopic thyroids are malignantIt has been postulated that ectopic thyroid glands are a result of embryological rests which have failed to fuse with the main thyroid tissue during development .They are also thought to be implants of thyroid fragments resulting from mechanical disruption of the gland secondary to any prior surgical procedure, trauma to the gland or sequestration of a nodule in the gland involved by a diffuse process such as thyroidit is or nodular hyperplasia[1, 5,6,10, 12]

Thyroid ectopia may present as the only functioning gland or may coexist along with a normal pretrachealthyroid. It usually presents as an asymptomatic mass and tends to increase in size when hormone demands increase, this was evident in our case with thyroid hormone levels. Like in puberty, pregnancy and stress local symptoms such as obstruction, hemorrhage and other complications depend upon the site of the ectopic thyroid, though this patient did not show any of these complications .

Ultrasonography with color Doppler imaging is the most sensitive imaging for detection of this rare entity Scintigraphic studies may show Iodine I^{123} or Technetium Tc^{99}-pertechnetate uptake by ectopic thyroid tissues Computed tomography and magnetic resonance imaging are

sometimes nonspecific in distinguishing ectopic thyroid from soft tissue masses or lymph nodes. Imaging may be used to guide fine-needle aspiration from the tissues. Surgical management of a symptomatic ectopic thyroid depends upon the presence or absence of a normal thyroid gland .If the latter is present, simple excision of the ectopic tissue may be done

If the ectopic thyroid is the only gland present, the symptomatic gland may be excised and autotransplanted in the muscles of the neck, in the rectus abdomen is muscle or in the lateral cervical gutter. Radioiodine therapy is also an effective treatment for this rare entity[5,6]

CONCLUSION

Although there are several reports of thyroid tissue found in the midline of the neck, ectopic thyroid in the submandibular region in combination with a normally located, active, and well-functioning thyroid gland is extremely rare

Before the complete removal of ectopic thyroid tissue, it is absolutely necessary to ensure that normal, well-functioning thyroid tissue is still present by using scintigrapy.

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