Clinical History:

A 13-year-old girl presented with an asymptomatic lump in the anterior area of the neck for one year.

Imaging Findings:

Pre and post IV contrast injection images were obtained. Contrast-enhanced CT revealed that there was no normal bi-lobed thyroid gland present in its normal position. Two well-defined, rounded, intensely enhancing soft tissue attenuation nodules were detected instead; one at the lingual base in midline just anterior to the epiglottis at the foramen caecum region and a second in the pre-tracheal region just below the level of the pharynx. The lesion at the lingual base was hyperdense on pre-contrast images and the lesion in the pretracheal region was slightly hypointense.

Discussion:

Background

Ectopic thyroid tissue (ETT) is a rare congenital anomaly defined as the thyroid tissue not located in its normal position antero-laterally to the second to fourth tracheal cartilage [1]. The prevalence of ETT is about 1 per 100,000–300,000, and most frequently it affects women. Although this is a congenital anomaly, ETT is usually detected at adolescence and during pregnancy due to increased physiological demand for thyroid hormones [1] either because of clinical symptoms and signs of thyroid functional disturbance or increase in size of ectopic thyroid tissue. ETT may occur anywhere along the path of its initial descent from the foramen caecum to its final pre-tracheal position [1]. The most commonly found ETT is located at the base of the tongue (lingual thyroid) with incidence of approximately 90% of reported cases [1]. Other rare sites are: sublingual or higher cervical region, mediastinum, respiratory tract [2], head, [3] gastrointestinal tract, female genital tract, biliary system and skin [4].

Dual and triple ectopies

Multiple (dual and triple) ETT is very rare and few cases have been reported in the literature [5]. In most cases of dual ectopia, the first lesion is lingual or sublingual and the second is subhyoid, infrahyoid or
CLINICAL FEATURES
The majority of patients with ectopic thyroid are asymptomatic. In symptomatic patients, the symptoms and signs are usually related to size and location of the ectopic gland as well as associated endocrine dysfunction [3]. The ETT may be the only functioning thyroid tissue or may coexist as a separate structure with a normally located thyroid gland [1].

Diagnostic workup

Ultrasound is favoured in the initial assessment. CT and MRI examination are especially useful when an ectopic thyroid gland is not identified by ultrasound. Scintigraphy is the most important diagnostic tool to detect ectopic thyroid. Fine needle aspiration cytology is the only modality to differentiate between a benign and malignant lesion [2]. Other investigations may be required depending on the location of ETT.

Secondary involvement and malignancy potential

All diseases capable of affecting the normal thyroid can affect the ectopic thyroid as well. The rate of malignant transformation in ectopic thyroid is no greater than in normally placed thyroid [6].

CONCLUSION

ETT is a rare entity with the majority of cases located at the base of tongue. Dual and triple ectopies are extremely rare. The majority of patients are asymptomatic; however, symptoms may arise following enlargement of the gland. Scintigraphy, ultrasound, CT, MRI, biopsy and thyroid function tests are the main diagnostic tools.

Differential Diagnosis List: Dual thyroid ectopy, Haemangioma, Hypervascular metastasis

Final Diagnosis: Dual thyroid ectopy

References:

**Description:** Sagittal section through the midline of the neck revealing both sublingual and pretracheal ETT. **Origin:** French medical institute for children, Department of Radiology
Description: Axial enhanced CT section just below the level of the larynx showing an intensely enhancing round soft tissue lesion. Origin: French medical institute for children, Department of Radiology.
Figure 3

Description: Axial enhanced CT section at the lingual base showing an intensely enhancing round soft tissue lesion. Origin: French medical institute for children, Department of Radiology.
Description: Axial non-enhanced CT section at lingual base showing a well-defined, rounded, slightly hyperdense lesion. Origin: Radiology department, French Medical Institute for children
Description: Non-enhanced axial CT section below the level of the larynx anterior to the trachea showing a low attenuating, rounded lesion. Origin: Radiology department, French Medical Institute for children