acta medica

CASE REPORT

Intratracheal Ectopic Thyroid Tissue

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ABSTRACT

Intratracheal ectopic thyroid tissue is a rare abnormality that can cause airway obstruction. Presence of ectopic tissue in the larynx is extremely rare. The symptoms can easily be confused with those of bronchial asthma. We describe the case of a 52 year old man with subglottic thyroid tissue and multinodular goiter who undergone total thyroidectomy of for multinoduler goitre in october 2009. After the correct diagnosis was established, the lesion was excised via an external approach. We also discuss the clinical features and management of intratracheal thyroid tissue

Keywords: İntratracheal, subglottic mass, ectopic thyroid tissue

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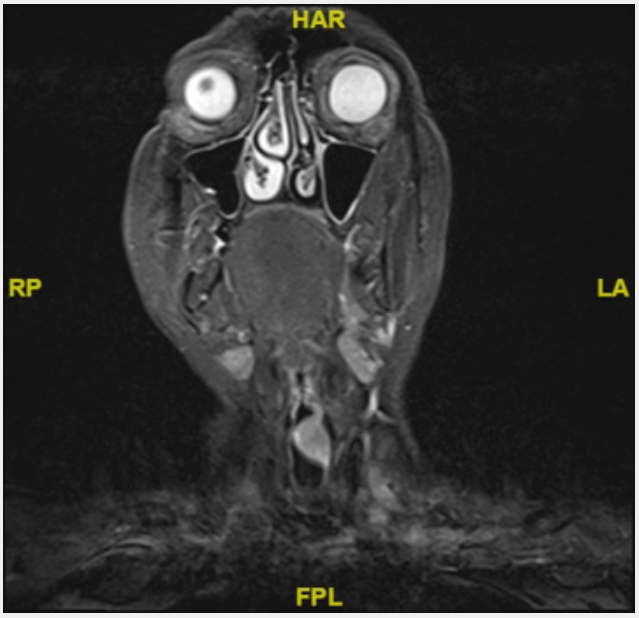
INTRODUCTION

Ectopic thyroid tissue is usually found in the midline along the path of descent of the thyroidgland. It has been described in the tongue, larynx, trachea,[1] oesophagus, mediastinum and heart.[1,2] Lingual ectopy is the most common location of ectopic thyroid gland. Presence of ectopic tissue in the larynx is extremely rare. There have been rare reports of implantation of thyroid tissue following trauma,[3] fine needle aspiration biopsy [4/5] and endoscopic thyroid surgery. [3-6].We present a case of multinodular goitre arising in the trachea, in a patient who had undergone total thyroidectomy for due to multinoduler goitre in October 2009.

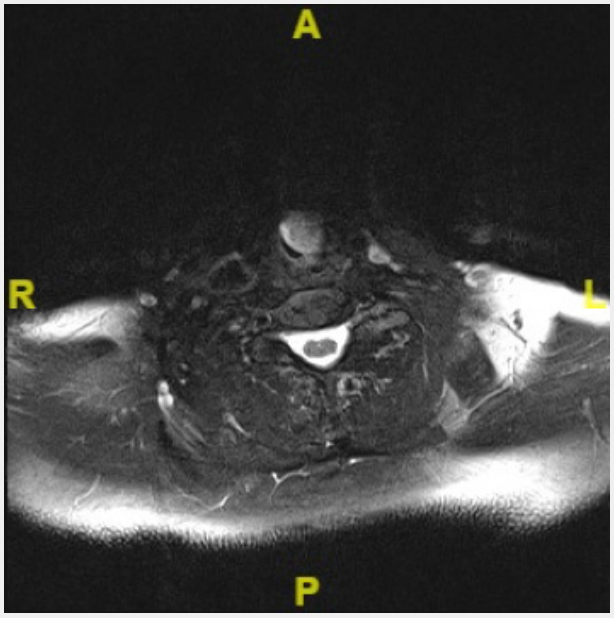
CASE REPORT

A 52 year old woman female patient presented to our ENT otolaryngology department with a 2 year history of dyspneae which exacerbated in the last 3 months. Fiberoptic laryngoscopy revealed a left vocal fold and arytenoid paralysis. The patient hads undergone total thyroidectomy for multinoduler goitre 5 years ago in another clinic .There was no available fine needle aspiration biopsy and postoperative pathology report about that regarding the previous surgery. Thyroid hormone (T3-T4) levels were within normal range and TSH level was above the normal range upper limit(8.45 mU/ml). MRI scans revealed a mass localized in the infraglottic part of larynx on the left wall with a dimension of 1.6x1.4 cm16x14 mm causing an leading to subglottic stenosis. Another mass was detected on the left side of thyroid cartilage with a dimension of 12x10 mm and this lesion was more likely to be a residual thyroid tissue rather than an ectopic thyroid. The larger mass was pressing the trachea anteriorly and it's

indentation could be seen in the tracheal lumen. There was no connection between residual thyroid tissue and intratracheal submucosal mass.



(Figure 1a)



(Figure 1b)

Figure 1a and b – Contrast-enhanced T2 weighted MRI of the neck showing well-demarcatedintraluminal nodule protruding from left wWall of trachea. The ectopic thyroid tissue is labeledwith arrows in axial and coronal sections in Figure 1a and 1b, respectively. (Figure 1a and b).

Figure 2 - Endoscopic image showing submucosal subglottic mass.

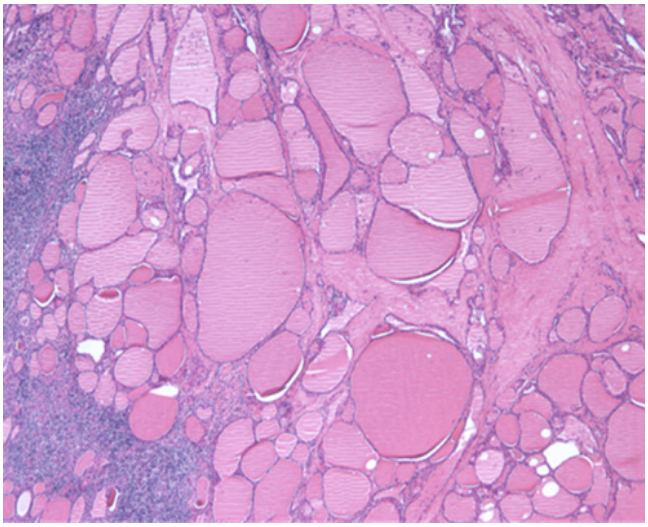


Figure 3 - High power photomicrograph of benign thyroid tissue in the tracheal wall. (H&E; bar = 200 µm).

Fine needle aspiraton biopsy was performed from the nodule which was on the left side of thyroid cartilage was performed. The result of biopsy was follicular epithelial cells with out atypia, and colloid. Direct laryngoscopy under general anesthesia was proceeded and it revealed a mass locatad at 1 cm below the glottis. It was arising from left side of trachea and narrowing tracheal lumen causing a Cotton-Myer grade 3 stenosis. (Figure 2). After evaluating the condition of thyroid cartilage and trachea, laryngofissure approach was utilized and the mass was excised completely. Intraoperative frozen sections obtained from left sided thyroid nodule and intratracheal submucosal mass. Results of both frozen section biopsies were thyroid tissue. There were no complications intraoperatively

or postoperatively. The final pathology report resulted as multinoduler colloidal thyroid tissues and lymphocytic thyroiditis. (Figure 3).

DISCUSSION

Unless it is malignant, throid tissue is rarely found in the intratracheal lumen. The most commonly reported cause is an ectopic thyroid gland, occuring when the thyroid fails to descend to it's normal position during embryological development. The thyroid gland develops from endoderm, arises from the base of tongue and migrates downwards to the location inferior to the larynx where it is located in postnatal life. In the time of development migration of the thyroid along the thyroglossal duct can cause ectopy. The most often common localization of ectopic thyroid is base of tongue (lingual ectopy) with an icidence of frequency 1/100,000 patients [7]. Ziemssen was the first to describe intratracheal goitre in 1875. Since then approximately 120 cases have been reported in the endemic goitre zones of the world in the world[8,/9]. The majority of ectopic thyroid specimens are benign, some displaying adenomatous change. However, malignant transformation can occur in up to 11 per cent of cases, most commonly papillary carcinoma. Seventy-five percent of cases are associated with an external goitre. [10 , / 11] . Differential diagnosis of intratracheal masses should include papilloma, enchondroma, osteoma, amyloid deposits, and malignancies such as thyroid carcinoma invading the trachea, chondrosarcoma, squamous cell carcinoma, adenoid cystic carcinoma, or lymphoma[12]. In this case report, the thyroid tissue was probably directly implanted into the tracheal lumen during the patient's thyroidectomy surgery for which was indicated for multinoduler goitre. While details of that the mentioned surgical procedure were not available, implantation probably occurred either is speculated to take place during surgery. Two theories regarding the pathogenesis dominate the literature. One theory, that of fetal malformation, postulates that the developing thyroid is divided by the developing trachea and its cartilage rings. Another theory suggests an ingrowth of thyroid tissue into the tracheal lumen [8]. Intratracheal thyroid tissue is usually present as a broad-based submucosal mass on the lateral wall in a subglottic and upper tracheal position. Cases of thyroid tissue implantation following blunt trauma, fine needle aspiration biopsy and endoscopic thyroid surgery have been reported, but are rare. The literature concerning laryngeal location of the ectopic thyroid is extremely rare. The current case illustrates the requirement for careful tissue handling during implantation surgery and precise technique during needle aspiration biopsy. Maintaining the integrity of normal anatomical structures during these procedures will help to prevent the rare complication of thyroid implantation. Treatment consists of surgical exploration and resection. Intraluminal treatment with the laser has one important disadvantage, a histopathological examination for malignant degeneration is not possible. In conclusion, ectopic intratracheal thyroid tissue is a rare condition. It may cause upper airway obstruction and it should be considered in the differential diagnosis. The management illustrated described here presents serves the patient with a much less invasive procedure but requires close follow-up for recurrence or malignant change.

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