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Ectopic Intratracheal Thyroid: Case Report

Ektopik İntratrakeal Tiroid: Olgu Sunumu

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ABSTRACT

Ectopic thyroid tissue is well known to exist at the base of the tongue and along the thyroglossal duct, where its localization can be explained by the embryogenesis of the thyroid gland. The thyroid gland first appears at the base of the tongue and descends on the midline into a pretracheal position. The presence of thyroid tissue outside this pathway has been reported in a variety of places. One of them is intratracheal region. Ectopic thyroid tissue within the trachea (intratracheal or endotracheal tissue) is a rare cause of upper airway obstruction. The symptoms may be classical or, as in most cases in which the voice is not affected, the first sign may be dyspnea. The presence of a submucosal upper tracheal mass is quite unusual. If one is familiar with the fact that thyroid tissue may occur in this location, then this diagnosis should be considered in patients with such symptoms, and the appropriate diagnostic studies and surgical management should be instituted. The present case report entailed a 14 old-girl who had increasing shortness of breath and dyspnea. Indirect laryngoscopy revealed an upper tracheal submucosal mass which was confirmed by direct laryngoscopy and computed tomography. Biopsies obtained confirmed diagnosis of "ectopic thyroid tissue."

Keywords
Ectopic thyroid; trachea; dyspnea

ÖZET

Ektopik tiroid dokusunun en çok tiroid bezinin embriyolojisi tarafından açıklanabilecek yerler olan dil kökünde ve tiroglossal kanal boyunca var olduğu bilinmektedir. Tiroid bezi ilk olarak dil kökünde belirir ve pretrakeal pozisyon boyunca orta hatta iner. Bu yolun dışında, değişik yerlerde de tiroid dokusunun varlığı yayınlanmıştır. Bunlardan biri de intratrakeal bölgedir. İntratrakeal tiroid dokusu üst solunum yolu obstruksiyonun nadir nedenlerindendir. Burada birinci semptom olarak, ses telleri etkilenmediği sürece, en çok dispne görülmektedir. Submukozal trakeal kitle oldukça yabancı bir durumdur. Fakat bu bölgede tiroid dokusu olabileceği gerçeğini kabul etmek gerekir. Bu yüzden semptomları olan hastada bu durum düşünülmeli, uygun tanısal ve cerrahi işlemler yapılmalıdır. Burada 14 yaşında dispne ve nefes kısalması olan hasta anlatılmıştır. İndirekt laringoskopide submukozal kitle görülmüş, direkt laringoskopi ve BT ile konfirme edilmiştir. Alınan biopsi sonucu ektopik tiroid olarak gelmiştir..

Anahtar Sözcükler
Ektopik tiroid; trakea; dispne

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INTRODUCTION

"Ectopic thyroid" is any thyroid tissue which is not located in its normal anatomic situation. There are four general groups discribed within the upper aerodigestive tract: lingual, sublingual, thyroglossal and intralaryngotracheal. Intralaryngotracheal thyroid tissue is rare and constitute %7 of all intratracheal tumours, and it represents a problem of diagnosis and management. The controversy about the genesis of this tumours remains. There are two established theories: "the malformation theory" and "the ingrowth theory". These tumours affect more frequently adult female. Intralaryngotracheal thyroid have been mainly reported on the posterior-left wall of the trachea. The most common clinical feature is stridor due to progressive upper airway obstruction. In this paper a 14-year-old female patient with intratracheal ectopic thyroid is reported.

CASE REPORT

A 14-old girl was admitted with respiratory distress. She had a rigth total, left subtotal thyroidectomy due to MNG in another medical center. Patient was euthyroid. Her stridor had incresed progressively within last 6 months. Indirect laryngoscopy revealed a mass on the right side, which is covered by flat mucosa, on the subglottic region. CT scans demonstrated a mass obliterating 80% of the passage in the subglottic region (Figure 1). The mass was succesfully removed from trachea with cricoid split operation (Figure 2). The trachea, in the region of the cricoid, first and second tracheal ring, was grossly scarred. A mass, 2 cm in diameter, was excised from the right side of trachea endoscopically. Histological examination of the specimen revealed ectopic thyroid tissue. Recovery period was uneventful.

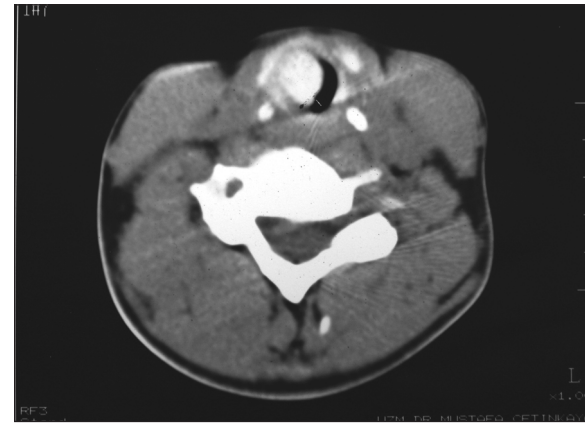

Figure 1. Tomogram of trachea demonstrating mass in tracheal lumen.

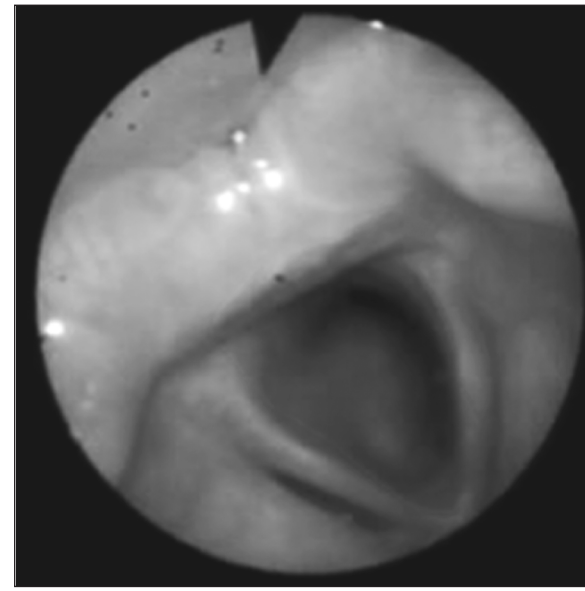

Figure 2. Subglottic mass observed during the endoscopy.

DISCUSSION

Thyroid gland is first identifiable in embryos at about 20 somites as a median thickening of endoderm in the floor of the pharynx between the first and second pharyngeal pouches and immediately dorsal to the aortic sac.This area later invaginates to form a median diverticulum. It grows caudally, closely associated with the heart as a tubular duct which bifurcates forming the isthmus and lateral lobes of the thyroid gland.

The connection of the median diverticulum to the pharynx is termed as thyroglossal duct.The site of its connection with the epithelial floor of the mouth is marked by the foramen cecum. The distal part of the duct usually differantiates to a variable extent to form pyramidal lobe of the thyroid gland.The remainder usually fragments and disappears. Occasionally, parts of the duct persist and may present as aberrant masses of thyroid tissue, cysts, fistulae and sinuses.

As the heart descends during embryogenesis, it pulls the developing thyroid gland caudally. Anomalous

development may result in thyroid rests in any location from the base of the tongue to the diaphragm. In the head and neck area, the most common aberrant location is a pyramidal lobe extending from the isthmus, or either lobe superiorly, often as far to the hyoid bone.Thyroid tissue has also been described at tha base of the tongue, pyriform sinus,esophagus, submandibular triangle, larynx, trachea, intraventricular septum of the heart and the diaphragm.[1-10]

True ectopic thyroid tissue in the trachea is a rare but well described abnormality, accounting for 6 to 7% of all primary endotracheal tumors.[11] The first case was described in 1875. Since then, more than 130 cases have been reported. Most cases have occurred in the endemic goiter regions of the world.[12]

Intratracheal ectopic thyroid tissue usually appears as a broad based submucosal mass on the lateral subglottic and upper tracheal wall.[1-3] However, this type of tissue has been described in sites from the glottis to the tracheal bifurcation.

Ectopic intratracheal thyroid tissue is usually asymptomatic until grows enough to encroach on the airway. Symptoms of airway obstruction are the most common presenting features frequently diagnosed as asthma. These symptoms may be present over many years before definitive diagnosis is made.[13] Once the possibility of intratracheal ectopic thyroid has been considered, diagnosis is relatively straightforward.

Multiple nodules, ulceration and hemorrhage are unusual in true ectopic thyroid and should arouse suspicion of carcinoma. The incidence of malignant change in intratracheal thyroid is reported as high as 11%.[14]

The high tracheal masses are frequently visible on indirect laryngoscopy. Plain films, and CT, CAT scans of the upper airway will delineate the mass. A thyroid scan may be helpful in diagnosis. Direct laryngoscopy and bronchoscopy will allow accurate delineation of the mass and confirmation of the diagnosis by biopsy.

Surgical excision of the lesion, the therapeutic method chosen also in our patient, is probably the most effective and safest.[15-17] Endoscopic approach using simple forceps may lead to recurrence if tissue removal is inadequate. More seriously, it carries a potential risk of uncontrollable endotracheal bleeding.Treatment consists of removal via a tracheofissure.[18] The tracheal mucous membrane must be treated with special care to prevent cicatricial stenosis of the trachea. In our case, we have used the tracheofissure and the mass was succesfully removed from trachea.

CONCLUSION

Ectopic intratracheal thyroid is a rare abnormality, with few cases reported in the literature. Because it is a rare cause of airway obstruction, we aim to remind the clinician by presenting this case.

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