

A case report of coexistence of ectopic lingual thyroid with hypoplastic normal thyroid gland

Junaid Zia Hashmi,¹ Ammarah Ghafoor,² Arifa Zia Hashmi,³ Shaheer Anwar,⁴ Zubair Siddiqui,⁵ Kanza Zia Hashmi⁶

Abstract

Ectopic lingual thyroid along with a normally located thyroid gland is an uncommon condition caused by an aberrant descent of thyroid during embryogenesis. It is more common among females and expresses during puberty, pregnancy and menopause. It is mostly associated with hypothyroidism. Patient usually presents with complaints of dysphagia, dysphonia and suffocation. Treatment of choice depends upon the primary complaint of the patient. We present the case of a young female who underwent tracheostomy to relieve respiratory tract obstruction during puberty and was later diagnosed as a case of ectopic lingual thyroid by radioactive iodine uptake and CT scan imaging. She had an associated hypothyroidism; patient was then put on thyroxine and after making her euthyroid she was operated by transoral route and her ectopic lingual thyroid was removed. She was discharged on a maintenance dose of thyroxine.

Keywords: Ectopic lingual thyroid, Tracheostomy, Hypothyroidism.

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Introduction

Thyroid gland is normally located between 2nd and 5th tracheal cartilages in front of the neck. Embryological development of thyroid gland occurs between 4th and 7th weeks of pregnancy during which it descends from the base of the tongue at foramen caecum to infrahyoid region. Sometimes, remnants of thyroid tissue are left along the pathway of descent or it may be the only remaining thyroid tissue in the body.

This condition was first identified by Hickmann when he described the death of a baby at 16 hours, following birth due to suffocation caused by ectopic lingual thyroid.¹ Ectopic lingual thyroid is a very rare condition occurring in

only 1 in 100,000 persons and less common among males as compared to females with ratio ranging from 1:4 to 1:7.² Among all the sites of ectopic thyroid tissue, base of the tongue is the most common one. Less frequent sites are suprahyoid, infrahyoid and in front of hyoid bone.³

The aim of this study is to report a case of a young hypothyroid female of 17 years age having ectopic lingual thyroid gland. Study was conducted after the consent of the patient.

Case Report

A 17-year-old female presented at a surgical outdoor clinic on 26th of May 2018 with a history of swelling at the base of the tongue leading to difficulty in swallowing and breathing for 5 years. She also complained of lethargy, bradycardia, decreased appetite and cold intolerance. There was a history of tracheostomy five years back for respiratory tract obstruction which was removed after one week. Past medical history revealed an intake of thyroxine 100 microgram for one year following tracheostomy and which was discontinued thereafter.

Clinical examination showed an afebrile young female patient with a lean built of average height with pulse rate 54/min, BP 100/70 mmHg and respiratory rate 15/min. On oral examination there was a swelling with smooth surface at the base of the tongue with partially obstructed oropharynx (Figure-1). There were no lymph nodes



Figure-1: Picture showing ectopic lingual thyroid tissue at the back of tongue.

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^{1,2,5}Nishtar Medical University and Hospital, Multan, ³Department of Pathology, Bakhtawar Amin Medical College, Multan, ⁴Sheikh Khalifa Bin Zayed Al-nayhan Medical College and Hospital, Lahore, ⁶Final Year MBBS Student, Nishtar Medical University and Hospital Multan, Pakistan.

Correspondence: Junaid Zia Hashmi. Email: juneehashmi@yahoo.com

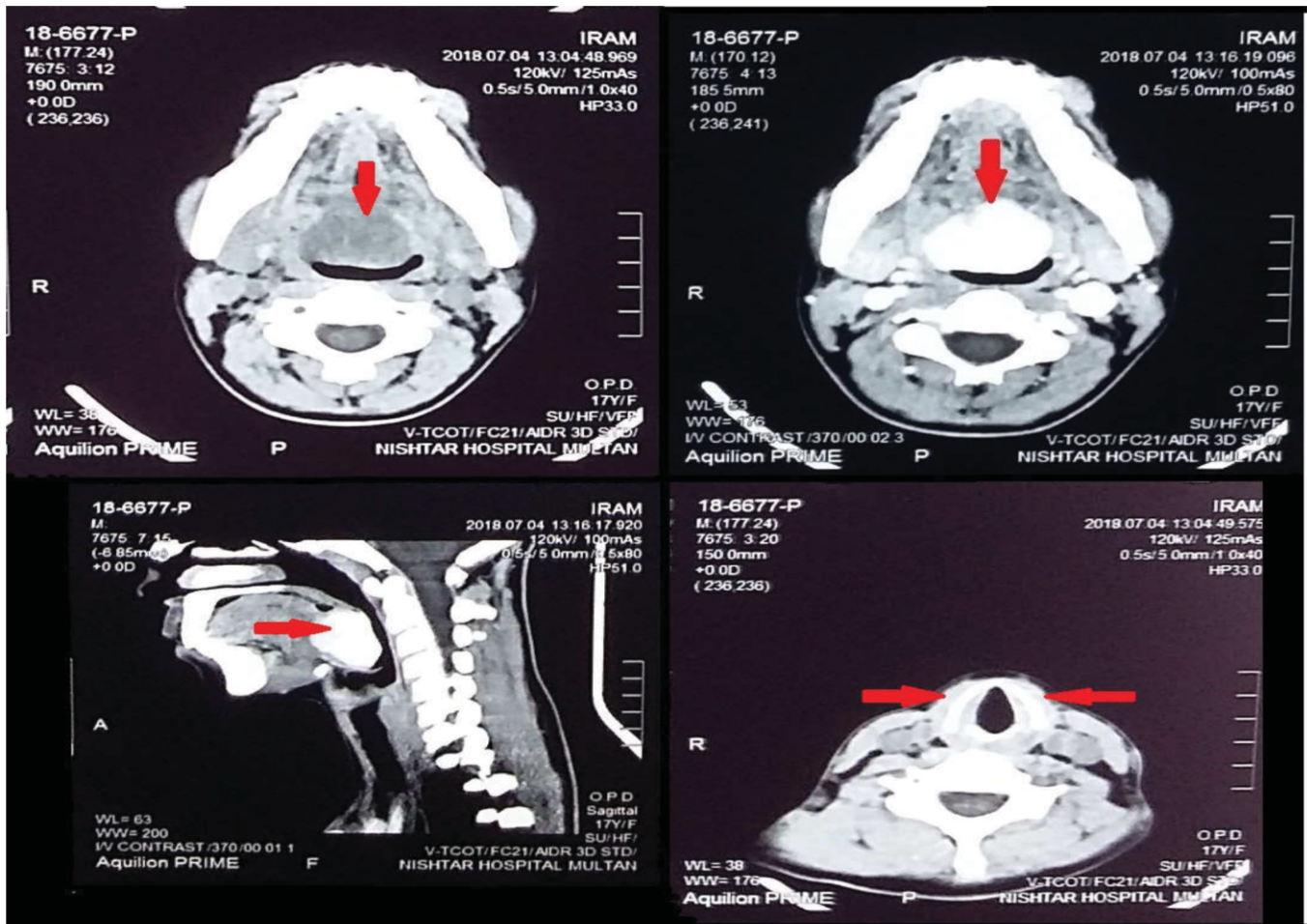


Figure-2: CT scan base of mandible and neck with IV contrast showing mass with contrast enhancement at the base of tongue reaching upto the end of glottis along with the hypoplastic thyroid gland at level of thyroid cartilage

palpable. Central nervous, respiratory, cardiovascular and gastrointestinal system examinations were unremarkable.

Her haemoglobin was 10.2 g/dl and total leukocyte count was 5200 cmm³. Renal and liver parameters were within normal range. Her TSH at presentation was 11.5 uIU/ml, (normal range 0.20-4.0 uIU/ml), T3 2.5 nmol/L (normal range 1.0-3.0 nmol/L), and T4 85 nmol/L (normal range 58-175 nmol/L). Thyroid scan showed no radiotracer uptake by the normal thyroid tissue and slight uptake was seen by the tissue at suprahyoid region. Findings on CT scan images of the neck with IV contrast showed significantly contrast-enhanced lobulated area along the base of the tongue reaching upto the end of glottis with superior extension upto the uvula causing minimal obstruction of oropharynx (Figure-2). Thyroid gland was found to be in reasonable symmetry and had normal internal structure.

Patient was put on thyroxine 100 microgram once daily.

Patient underwent resection of ectopic thyroid tissue by the ENT department at Nishtar Medical University and Hospital Multan after becoming euthyroid. Post-operative recovery was uneventful and she was put on thyroxine maintenance dose on follow up at a surgical outdoor clinic at Nishtar Medical University and Hospital Multan.

Discussion

Lingual ectopic thyroid is an uncommon condition and is almost seven times more common in females as compared to males. According to a study, its incidence varies from 1 in 3000 persons to 1 in 10,000 persons.⁴ Its etiology is related to defective embryogenesis in which there is improper descent of the medial portion of the gland. This ectopic lingual thyroid remains asymptomatic during most of the life span. It expresses itself during early childhood and during late adolescence due to increase in level of TSH in these ages.⁵ During puberty, pregnancy and menopause there is elevation in levels of TSH in

blood leading to hypertrophy of ectopic tissue.⁶ In our patient puberty surge caused hypertrophy of ectopic tissue leading to respiratory tract obstruction. The patient underwent tracheostomy and later on thyroxine administration decreased the size of ectopic tissue.

In a study conducted in 1935 it was found that ectopic lingual thyroid is most of the times associated with hypothyroidism and only rarely with hyperthyroidism. Of these 70% of the cases were found to be associated with hypothyroidism.⁷ Same was the case with our patient who was hypothyroid when investigated. Symptomatic patients present with the difficulty in swallowing, dysphonia, foreign body sensation, sleep apnoea and sensation of suffocation.⁸ Coexistence of ectopic lingual thyroid with normally located thyroid gland is a rare entity and only some cases are reported worldwide.⁹

Clinical examination and imaging studies is the mainstay of diagnosis.⁸ Complete examination of normal tissue in front of the neck is very important as it gives information about the presence or absence of normal gland. In our patient normal thyroid gland was present which was also evident on CT scan images of the neck and radioactive iodine tracer uptake further showed the presence of ectopic tissue at the base of the tongue. Technetium-99, CT scan and MRI provide complete information regarding the diagnosis and help in planning adequate intervention.¹⁰

The treatment strategy depends upon the symptoms and complaints of the patient. If only physiological corrections are to be made, the therapeutic control which involves observation, suppression and treatment with radioactive iodine are usually sufficient. In our patient the main complaint was suffocation and dysphagia so conservative approach wouldn't have helped the patient and in such

cases surgery is imperative. There are different approaches to reach the lingual thyroid; it can be removed by transcervical, transmandibular and intraoral routes.¹⁰ In our patient lingual ectopic thyroid was removed through intraoral route.

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Conflict of Interest: None to declare.

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