EJPMR, 2026, 13(4), 170-174 **Case Study** **Impact Factor: 8.158**

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

ISSN (O): 2394-3211
ISSN (P): 3051-2573
Coden USA: EJPMAG

SUBMANDIBULAR ECTOPIC THYROID TISSUE PRESENTING AS A NECK MASS: CASE REPORT AND LITERATURE REVIEW

Nouf Abdulkarim Alshehri*[1], Abdullah Ghafouri[2], Samia Bokhari[3], Esraa Bokhari[4], Lama Khaled Arfaj[5], Hamdy Alkady[6], Rashed Alotaibi[7], Sally Ahmed Aqabawi[8]

[1]Endocrinology Department, King Fahad Armed Forces Hospital, Jeddah, Saudi Arabia.
[2]Otorhinolaryngology Department, King Fahad Armed Forces Hospital, Jeddah, Saudi Arabia.
[3-7]Endocrinology Department, King Fahad Armed Forces Hospital, Jeddah, Saudi Arabia.
[8]Internal medicine Department, King Fahad Armed Forces Hospital, Jeddah, Saudi Arabia.

***Corresponding Author: Nouf Abdulkarim Alshehri**

Endocrinology Department, King Fahad Armed Forces Hospital, Jeddah, Saudi Arabia.

DOI: https://doi.org/10.5281/zenodo.19309388

How to cite this Article: Nouf Abdulkarim Alshehri*[1], Abdullah Ghafouri[2], Samia Bokhari[3], Esraa Bokhari[4], Lama Khaled Arfaj[5], Hamdy Alkady[6], Rashed Alotaibi[7], Sally Ahmed Aqabawi[8] (2026). Submandibular Ectopic Thyroid Tissue Presenting As A Neck Mass: Case Report And Literature Review. European Journal of Pharmaceutical and Medical Research, 13(4), 170–174.

Article Received on 19/02/2026 **Article Revised on 11/03/2026** **Article Published on 01/04/2026**

ABSTRACT

Background: Ectopic thyroid tissue is a rare developmental anomaly, typically occurring along the thyroglossal tract. Submandibular localization is extremely uncommon and poses diagnostic challenges. **Case Presentation:** We report the case of a 16-year-old girl presenting with a right submandibular mass. Clinical examination and imaging revealed a well-defined lesion suspicious for ectopic thyroid tissue. **Investigations and Treatment:** Neck ultrasound and MRI identified a complex lesion in the submandibular region. Thyroid scintigraphy confirmed ectopic thyroid tissue with absent uptake in the thyroid bed. Core biopsy demonstrated benign thyroid follicles. The patient underwent surgical excision of the lesion. **Outcome and Follow-up:** Postoperative follow-up showed satisfactory recovery with no recurrence. Thyroid function tests remained within normal range. **Conclusion:** This case emphasizes the need to include ectopic thyroid in the differential diagnosis of submandibular masses, with multimodal imaging playing a pivotal role in accurate diagnosis and guiding management.

KEYWORDS: Ectopic thyroid, Submandibular mass, Thyroid scintigraphy.

INTRODUCTION

A rare developmental abnormality called ectopic thyroid tissue arises when thyroid tissue migrates abnormally during embryogenesis.[1] Submandibular ectopic thyroids are extremely uncommon, making up a very small percentage of reported cases, whereas ectopic thyroids most frequently occur along the midline, such as lingual thyroid.[2] Because of its unusual position and possibility for malignancy or functional impairment, this condition presents diagnostic and treatment challenges.[3] We report the case of a 16-year- old girl who had an ectopic thyroid in her right submandibular region. The thyroid was asymptomatic at first, but it eventually caused discomfort and cosmetic issues. This case underscores the diagnostic challenges and therapeutic nuances of submandibular ectopic thyroid, particularly in adolescents.

CASE PRESENTATION

A 16-year-old female patient with no known medical illnesses. Presented to the endocrine clinic in 2022, complaining of a painless neck mass in the Right submandibular area for 2 years. According to the patient, the size increased suddenly in the last couple of months. There was no history of dysphagia, dysphonia, stridor, or hoarseness. There was a history of intermittent choking attacks, and according to the patient, the mass was movable with the tongue protrusion. No symptom suggestive of hypothyroidism or hyperthyroidism. There is no history of similar illness in the family or malignancy, and no history of smoking or alcohol consumption.

On Examination, the patient was vitally stable, BMI of 38. Neck Examination showed soft, non-tender swelling in the right submandibular region with no palpable lymph node. Investigation: Thyroid function test shows thyroid-

stimulating hormone (TSH) level of 2.5 mIU/L (0.5–4.3), free triiodothyronine (T3) levels of 3.1 pmol/L (normal: 2.6–5.7 pmol/L), free thyroxine (FT4) levels of 12pmol/L (normal: 9–19.1 pmol/L).

Radiology: The neck thyroid ultrasound **(fig1)** revealed a complex hypoechoic, thick-walled cystic structure adjacent to the right submandibular gland, measuring 2.5 × 2 cm, with internal vascularity. No appearance of any glandular tissue in the thyroid fossa.

MRI scan of the neck with intravenous contrast **(fig 2)** was also performed and showed well- defined bilobed mixed solid and cystic lesions in the right submandibular region. It appears heterogeneously isointense signal intensity to the muscles on T1 weighted image, heterogenous hypointense on T2 weighted images, and heterogeneously enhanced on post- contrast images. Also, MRI showed a well-defined mass that is situated at the base of the tongue around the region of the foramen cecum, which is close to the submandibular mass, with no clear connection between the two structures. After that, a thyroid scan **(fig 3)** was done showed focal tracer uptake at the right lateral aspect of the neck with no obvious neck uptake, including thyroid fossa, indicating a right ectopic normal functioning submandibular thyroid gland. Patient underwent ultrasound-guided fine needle aspiration (FNA) for the mass in the right submandibular region. The cytology showed benign ectopic thyroid tissue. A core needle biopsy for the mass in the submandibular region was done and showed ectopic thyroid tissue with no evidence of malignancy.

The ENT team proceeded to excise the base of the tongue mass under general anesthesia, as it was causing the patient mild dysphagia and discomfort. Postoperative histopathological findings were suggestive of benign ectopic thyroid tissue with no evidence of malignancy.

After 2 years patient returned to the Endocrine clinic complaining of discomfort in the Right submandibular mass during sleep when sleeping on the right side, and upset from disfiguration.

A CT scan neck with IV contrast **(fig 4)** was performed, which showed that the size of the submandibular mass increased to 4*4*4 cm. The patient was referred to ENT for Submandibular mass excision.

In **August 2025**, the patient underwent surgical excision of the submandibular ectopic thyroid, Macroscopic histopathology **(Fig .5)** shows that it consists of a single intact mass (5x2.8x2.5 cm) weighing 32g. Patient was discharged in good condition. Postoperative follow-up revealed **overt hypothyroidism**, for which **levothyroxine replacement therapy** was initiated. The patient currently maintains **normal thyroid function** under regular monitoring.

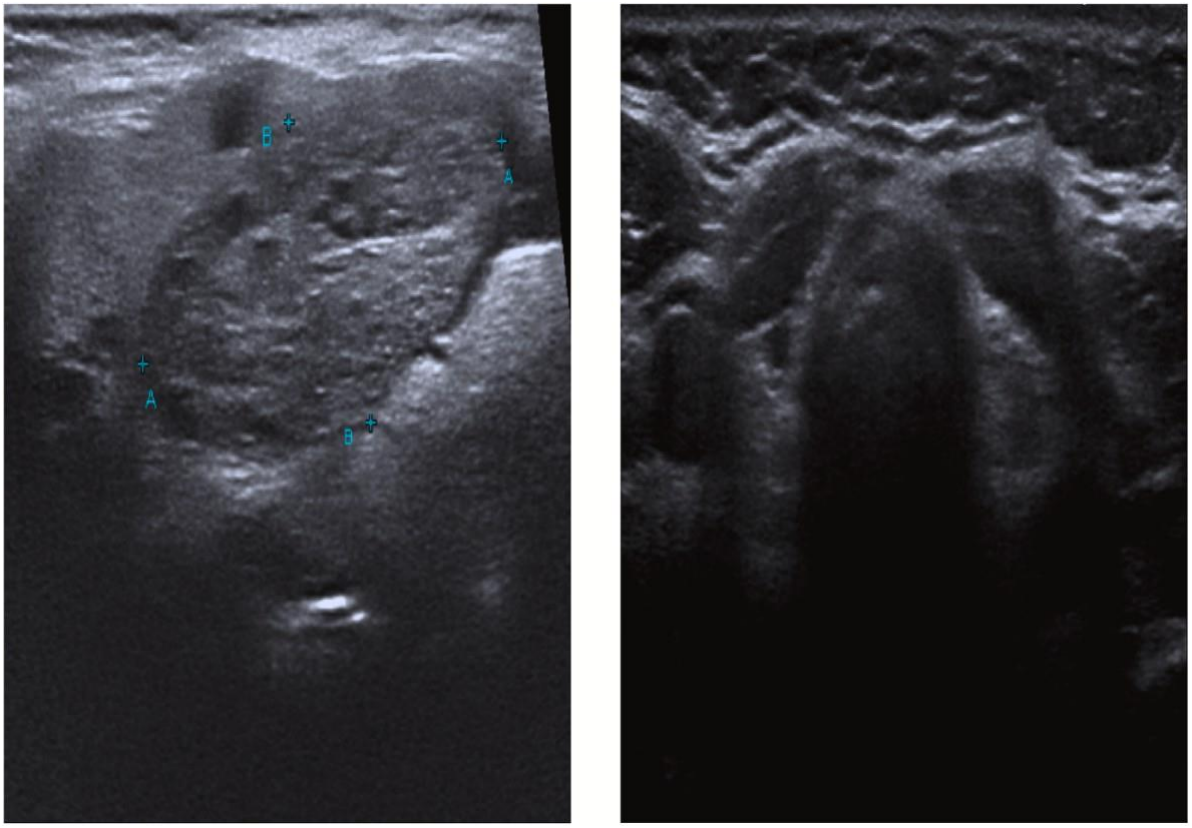

Fig. 1: a. Heterogenous right submandibular tissue representing thyroid gland.

b. Absent thyroid in neck ultrasound

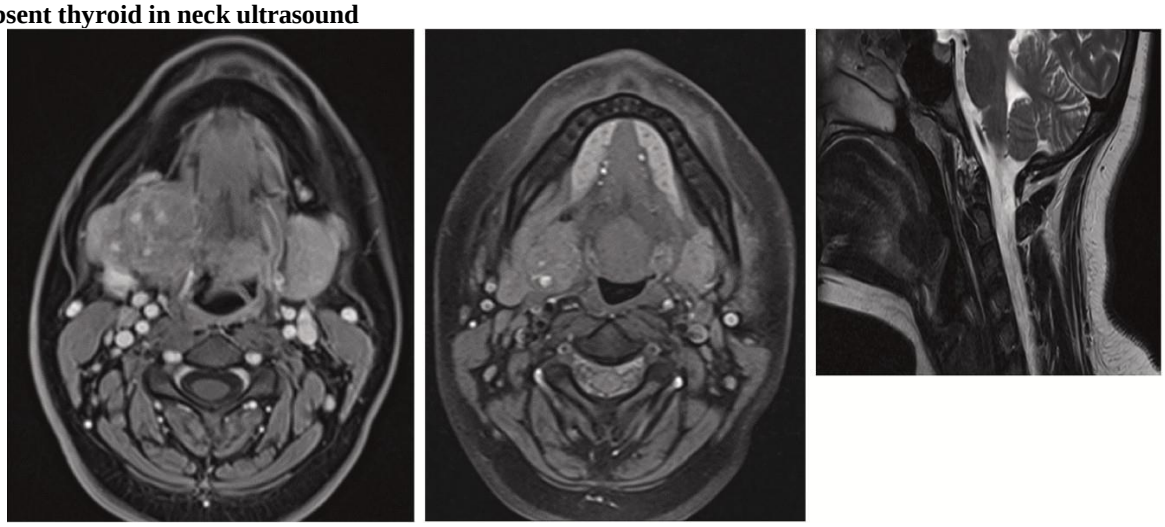

Fig. 2: a. MRI neck T1 with contrast level of submandibular area showing heterogenous thyroid gland in submandibular region (arrow).
b. MRI neck with T1 without contrast at level of base of tongue showing lesion in base of tongue with no clear communication between the two masses (dashed arrow). c. MRI neck T2 images sagittal view of base of tongue lesion (Asterix).

Fig 3: Thyroid scan post contrast showing activity of thyroid in submandibular region with no evidence of uptake of contrast in neck.

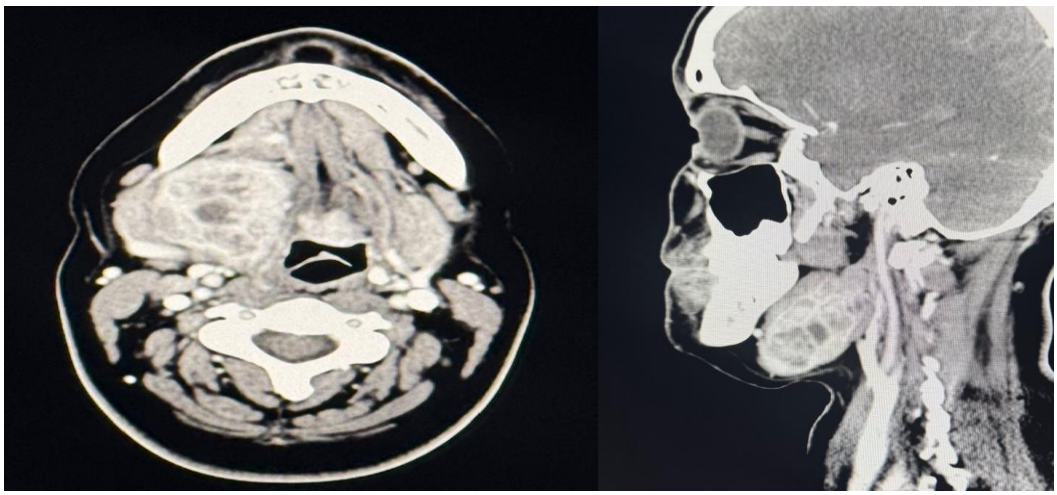

Fig.4: CT scan neck with IV contrast was performed, which showed that the size of the submandibular mass increased to 4*4*4 cm.

Fig. 5: Postoperative specimen shows that it consists of a single intact mass (5x2.8x2.5 cm) weighing 32g, the outer surface is brown-tan nodular with heterogeneous brown to yellow-tan solid cystic cut section filled with colloid-like material.

Fig 6: CT SCAN NECK before and after 6 months of surgical excision of the submandibular ectopic thyroid.

Fig 7: a. Preoperative clinical findings of the submandibular swelling. B. 6months postoperative.

DISCUSSION

Less than 20 cases of ectopic thyroid tissue in the submandibular region have been documented in the literature, making it an rare case.[2] The abnormal migration or persistence of thyroid tissue from the median or lateral anlages during development is the embryological basis for this anomaly[4] The submandibular mass was the only functional thyroid tissue in our instance, as indicated by the lack of orthotopic thyroid tissue on imaging and scintigraphy. This finding is in line with about 59% of cases that have been described.[6]

A painless, gradually growing lump that the patient presents with can be mistaken for other submandibular diseases, including lymphadenopathy or malignancies of the salivary glands. While MRI and ultrasound (US) are essential for describing the lesion, thyroid scintigraphy is still the most reliable method for verifying the presence of functioning ectopic tissue.[5] The diagnosis was supported in this case by the thyroid scan, which showed tracer uptake in the submandibular region but no activity in the thyroid fossa. Core biopsy and fine- needle aspiration (FNA) confirmed normal thyroid tissue and excluded cancer, whereas post-excision histopathological analysis provided conclusive proof.

While asymptomatic ectopic thyroids can be treated conservatively with surveillance, symptomatic cases (such as dysphagia or cosmetic problems) or suspected malignancy call for surgical excision.[7] The lingual mass was removed because of dysphagia, while the submandibular tumor in our patient was subsequently excised because of discomfort with pain and deformity.

CONCLUSION

In conclusion, ectopic thyroid tissue may occur throughout the descent pathway of the thyroid and, infrequently, in the submandibular region. Thyroid tissue located in the submandibular region can be managed using a case-specific manner to prevent postoperative hypothyroidism and the necessity for lifelong replacement treatment.

REFERENCES

1. Mutlu V. Ectopic thyroid tissue in submandibular and infrahyoid region. *Eurasian J Med*. 2014; 46(3): 216-9.
2. Malas M, Alsulami OA, Alwagdani A. Ectopic submandibular thyroid gland: A case-report with novel approach and review of literature. *Otolaryngol Case Rep*., 2023; 27: 100536.
3. Sanker V, Mohamed A, Pranala M, et al. A unique presentation of ectopic thyroid tissue: Case report and management principles. Cureus, 2022; 14(9): e28717.
4. Ibrahim NA, Fadeyibi IO. Ectopic thyroid: etiology, pathology and management. *Hormones*. 2011; 10(4): 261-9.
5. Bersaneti JA, Silva RD, Ramos RR, Matsushita MM, Souto LR. Ectopic thyroid presenting as a submandibular mass. *Head Neck Pathol*, 2011; 5(1): 63-6.
6. Karna R, Kumar J, Srividya BT, Prakash A, Singh I, Garg A. Ectopic thyroid tissue in submandibular region. *MAMC J Med Sci*., 2019; 5(2): 57-62.
7. Zieren J, Paul M, Scharfenberg M, Menenakos C. Submandibular ectopic thyroid gland. *J Craniofac Surg*, 2006; 17(6): 1194-8.
8. Helidonis E, Dokianakis G, Papazoglou G, Pantazopoulos P, Thomopoulou H. Ectopic thyroid gland in the submandibular region. *J Laryngol Otol*, 1980; 94(2): 219-24.