

Case Report

Ectopic Cervical Thymus in an Adult: A Rare Presentation

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Abstract

Ectopic cervical thymus is an essentially benign condition related to embryological development of the thymus and is exceedingly rare among the adult population. Precise and early diagnosis of the entity on high-resolution ultrasonography may help avoid further investigations and unnecessary surgical intervention. This case report describes the typical sonological appearance of ectopic cervical thymus in a 44-year-old male.

Keywords: Adult patient, ectopic cervical thymus, ultrasonography

INTRODUCTION

Ectopic cervical thymus results from thymic maldescent or failure of descent, and occurs most commonly in the prepubertal pediatric age group. It is a rare cause of neck mass and is seldom considered in their differential diagnosis. Ectopic cervical thymus is commonly discovered incidentally unlike in this case report where the presentation is that of a painless mass in the region of the anterior neck. Very rarely, ectopic thymic tissue may undergo hyperplasia and malignant transformation.

CASE REPORT

A 44-year-old man presented to surgery department with complaints of insidious onset progressive painless mass involving the anterior aspect of the neck. Clinical examination demonstrated a compressible, nontender soft-tissue swelling which was palpable separate from the thyroid gland. The patient was referred for high-resolution ultrasonography which revealed a well-defined hypoechoic soft-tissue mass lesion measuring 3 cm × 2 cm in size with multiple discrete echogenic dots giving a mottled appearance with minimal vascularity on color Doppler, located in the anterior triangle of the neck, inferior to the left submandibular gland and lateral to the thyroid gland [Figure 1a and b].

There was no evidence of calcifications or cystic areas within. Both lobes of thyroid and isthmus were unremarkable. There was no significant cervical lymphadenopathy. On

high-resolution ultrasonography, a diagnosis of ectopic cervical thymic tissue was made. Further imaging included contrast-enhanced computed tomography of the neck which demonstrated a well-defined anterior neck mass showing homogeneous contrast enhancement. Fine-needle aspiration cytology (FNAC) revealed a population of immature T-cells consistent with ectopic thymus. The patient is currently on follow-up for 6 months, and the lesion has been consistent in size ever since.

DISCUSSION

Ectopic thymic tissue is commonly detected in the pediatric age group. Adult cases of ectopic thymus are rarely encountered.^[1] Embryologically, thymus originates high in the neck and descends progressively to the level of mediastinum by adult life. Failure in descent of the thymic tissue results in ectopic cervical thymus which is mainly reported as an incidental finding. The most common location of ectopic thymus is at the level of thyroid, with rarer sites being submandibular gland, tonsil, middle ear, and base of the skull.^[2] Ectopic cervical thymus must be considered in the differential diagnosis of neck lesions. Ectopic cervical thymus may undergo transformation to thymic hyperplasia and rarely may turn malignant such as thymic carcinoma or lymphoma. On high-resolution ultrasonography, ectopic

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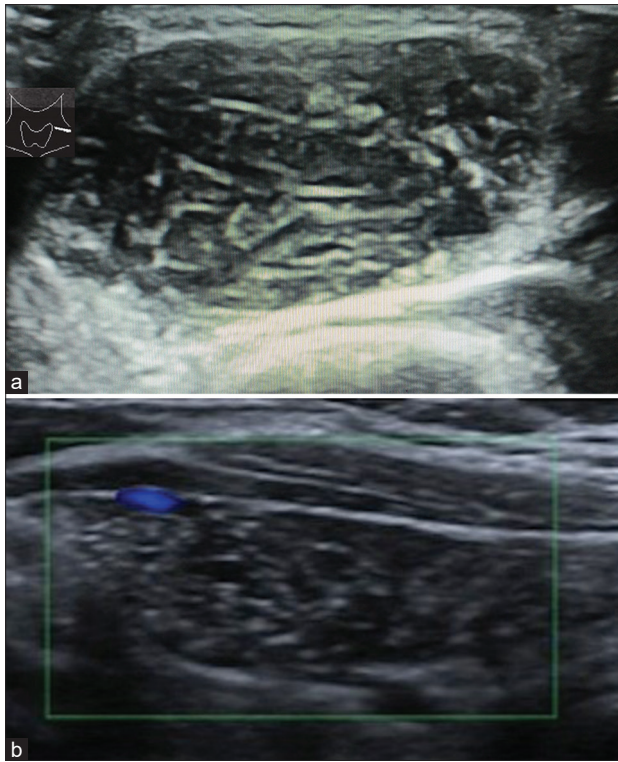


Figure 1: (a) High-resolution ultrasonography image demonstrating a well-defined hypoechoic soft-tissue mass with multiple discrete echogenic dots giving a mottled appearance located in the anterior neck. The sonological appearance is typical of ectopic thymus. (b) Color Doppler ultrasonography image demonstrating relative hypovascularity of the anterior cervical soft-tissue mass

cervical thymus is noted as a well-defined hypoechoic lesion and rarely may demonstrate internal vascularity on color Doppler.^[3] Benign thymoma has a lobulated configuration separated by thin fibrous septa characterized by a lacy appearance in ultrasonography.^[4] Cystic degeneration is commonly seen in larger thymoma. Benign thymoma may demonstrate foci of calcifications.^[5] Occasionally, diffuse increased echogenicity of benign thymomas on ultrasonography is caused by small cystic changes and lobulations.^[4] On the contrary, malignant thymoma demonstrates a more complex appearance than benign thymomas on ultrasonography which include absent lobulations, incomplete septations, and central vascularity.^[6] On ultrasonography, ectopic cervical thymus is noted as a mass of hypoechoic texture and shows relatively hypovascularity on color Doppler. Thymic carcinoma is an aggressive tumor representing <1% of thymic malignancies and commonly occurs between 30 and 60 years of age.^[7] However, incidence of malignant transformation of cervical ectopic thymus is exceedingly rare with paucity of literature on the entity. Ectopic cervical thymoma and thymic

carcinoma seem to have the same tumor behavior as they do in the mediastinum.^[8] Ectopic cervical thymus can mimic a pathologic mass or enlarged lymph node, potentially leading to unnecessary surgery and increased medical costs. As the lesion was confirmed as benign thymic tissue on FNAC and showed no increase in size at 6-month follow-up, the clinical team deferred surgery.

CONCLUSION

This case report describes the sonological appearance of ectopic cervical thymus which is a rare entity and even rarer in adult population. Radiologists and sonologists must be aware of the sonological appearance of ectopic cervical thymus to confidently diagnose the lesion with precision which helps prevent unnecessary biopsy and further imaging. No further workup may be required upon confirmation of diagnosis as ectopic thymic tissue.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for images and other clinical information to be reported in the journal. The patient understands that name and initial will not be published and due efforts will be made to conceal the identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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