Radiology Case Reports 13 (2018) 909–913

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/radcr

Case Report

Incidentally detected ectopic thyroid in juxta cardiac location—Imaging and pathology

Kriti Ahuja, MBBS[a,*], *Tarun Bhandari, MD*[b], *Swati Banait-Deshmane, DMRD*[a], *David R. Crowe, MD*[c], *Sushilkumar K. Sonavane, MD*[a]

[a] *Department of Radiology, University of Alabama in Birmingham, Birmingham, AL, USA*
[b] *Department of Internal Medicine, East Tennessee State University, Johnson City, TN, USA*
[c] *Department of Pathology, University of Alabama in Birmingham, Birmingham, AL, USA*

ARTICLE INFO

Article history:
Received 20 February 2018
Revised 1 June 2018
Accepted 7 June 2018

Keywords:
Ectopic thyroid
Paraganglioma
Computed tomography

ABSTRACT

Ectopic thyroid gland is a developmental anomaly that results from the arrest of thyroid tissue along its path of descent from the floor of mouth to the pre tracheal position in the lower neck. It is typically found along the thyroglossal duct with the base of the tongue being the most common site. Apart from mediastinal extension of goiter, the incidence of true intrathoracic ectopic thyroid tissue is rare. Presence of ectopic thyroid has been reported not only in the chest but also in the abdomen and pelvis. Pericardial and intracardiac locations are extremely uncommon and right ventricle location is predominant among the described cases. We describe a case of incidentally detected ectopic thyroid tissue in a rarer location—adjacent to the left atrium. The patient, who had undergone a nephrectomy for renal oncocytoma 5 years ago, presented with unintentional weight loss and left sided flank pain, prompting a workup to rule out abdominal malignancy. Findings on the computed tomography (CT) scan of the abdomen and pelvis prompted further investigation including a chest CT which showed a heterogeneously enhancing mass near the left atrium. Given its location, further radiological investigations played an important role in eliminating the differential diagnosis of paraganglioma. The mass was surgically resected and discovered to be a hyperplastic thyroid nodule on histologic examination.

© 2018 The Authors. Published by Elsevier Inc. on behalf of University of Washington.
This is an open access article under the CC BY-NC-ND license.
(http://creativecommons.org/licenses/by-nc-nd/4.0/)

Case report

A 69-year-old Caucasian male presented to the clinic complaining of left sided flank pain and unintentional weight loss of 10-15 pounds over the last couple of months. He complained of 5 years of periodic chest pain which was intermittent, nonexertional, and without discomfort or radiation. He had had a negative stress test 1 year ago. The patient denied shortness of breath, orthopnea, soft tissue edema, or palpitations. On physical examination, no abnormality was detected.

☆ Competing Interests: The authors have declared that no competing interests exist.

* Corresponding author.
E-mail address: kriti5ahuja@gmail.com (K. Ahuja).

https://doi.org/10.1016/j.radcr.2018.06.004

1930-0433/© 2018 The Authors. Published by Elsevier Inc. on behalf of University of Washington. This is an open access article under the CC BY-NC-ND license. (http://creativecommons.org/licenses/by-nc-nd/4.0/)

Five years ago he had undergone a right partial nephrectomy for a renal oncocytoma.

Given the past history and current presentation, the possibility of a new or recurrent malignancy was considered. Consequently, a computed tomography (CT) scan of the abdomen and pelvis with intravenous (IV) contrast was performed. No significant abnormality was found in the abdomen or pelvis. However, a heterogeneously enhancing mass was partially seen in the mediastinum, posterior to the aortic root, on limited images of the lower chest. Retrospective review of previous abdomen CT scans dating back 4 years showed the mediastinal mass to be grossly stable on limited images of the lower chest. A subsequent transthoracic echocardiogram showed a mass abutting the left atrium; the report raised the possibility of myxoma. In order to better visualize the mass, a CT scan of the chest with IV contrast was performed. It revealed a well-defined, high attenuation (HU 184) mass measuring about 4.5 cm × 3.3 cm × 2.7 cm, located posterior to the root of aorta and extending superiorly behind the tubular portion of the ascending aorta (Fig. 1a). The patient was still in the department and a limited noncontrast scan was performed to image the mass (HU 72) that confirmed a true contrast enhancement (Fig. 1b). On the coronal reformatted image, the lesion was located between the roof of the left atrium and the right pulmonary artery (Fig. 1c). The left atrial roof consists of the upper wall of left atrium and upper pulmonary veins opening into the left atrium. The fat plane between the lesion and the adjacent left atrium was maintained, which ruled out the possibility of atrial myxoma. The fat planes with other mediastinal structures including the aorta were also maintained. There were no other mediastinal nodules, pericardial effusion, or other abnormalities in the chest.

The patient did not have systemic symptoms related to excess adrenaline or serotonin secretion (ie, flushing, palpitations, or hypertension). Subsequently, an I-123 metaiodobenzylguanidine (MIBG) scan was performed with single-photon emission computed tomography (SPECT). There was no radiotracer uptake in the mass (Fig. 2). Given the size and enhancement of the mass, its juxta-cardiac location, and the patient's history of a renal malignancy, the mediastinal mass was surgically resected using a sternotomy approach. During surgery, the mass was easily separable from the adjacent pericardium and did not adhere to any other mediastinal structures. Pathologic examination of the lesion showed thyroid tissue with hyperplastic nodules without any malignant features (Fig. 3). Pre and postsurgery thyroid profiles were within normal limits: [presurgery thyroid profile: FT4–1.03 ng/dl; TSH–1.196 mc int units/ml; postsurgery thyroid profile: FT4–0.94 ng/dl; TSH–1.87 mc int units/ml]; (normal range: FT4–0.93-1.70 ng/dl; TSH–0.27-4.20 mU/l). Retrospective review of CT images showed normal size, location, and appearance of the native thyroid gland. No other foci of ectopic thyroid were seen in the mediastinum.

Discussion

Ectopic thyroid tissue is a rare developmental anomaly occurring in 1 in 100,000-1 in 300,000 people [1]. Ectopic thyroid may be classified into 2 types. Type 1 ectopic thyroid is present in the absence of thyroid gland at the normal location anterior to the trachea. Type 2 refers to ectopic thyroid in addition to thyroid gland present at its normal location [2]. We have presented an instance of type 2 ectopic thyroid in this report.

The thyroid gland is located in the subcutaneous plane of the anterior neck between the 2nd and 5th tracheal rings. It is the first of the body's endocrine glands to develop, on approximately the 24th day of gestation. The gland originates as a proliferation of endodermal epithelial cells on the median surface of the developing pharyngeal gut between the 1st and 2nd pharyngeal pouches. The thyroid primordium penetrates the underlying mesoderm and descends, anterior to the pharyngeal gut, as a bilobed diverticulum [3,4]. When present, ectopic thyroid tissue usually lies along the normal path of embryological descent and therefore occurs in the midline anywhere from the foramen cecum at the base of the tongue to the anterior midline of the neck. Lingual thyroid is the most common location of ectopic thyroid—accounting for 90% of cases [5]. Ectopic thyroid has been reported not only in the chest (eg, within thymus, trachea, esophagus, lung, and ascending aorta) but also in the abdomen and pelvis (eg, within liver, gall bladder, duodenum, pancreas, and vagina) [3]. Although relatively rare, instances of ectopic thyroid occurring in the heart have been reported and may be due to the anatomical relationship between developing thyroid primordium and the bulbus cordis of the developing heart. Due to this association with the bulbus cordis, ectopic thyroid may develop in the right ventricle when the heart and great vessels descend from the neck to the chest during development [6,7]. Therefore, cases of ectopic thyroid in the heart are generally restricted to the right ventricle—unlike our patient whose ectopic tissue arose near the roof of the left atrium.

Ectopic thyroid tissue is often discovered incidentally since it is usually benign and the patients are euthyroid [8]. Patients with large nodules may present with symptoms due to mass effect on adjacent structures [9]. Given the wide variety of possible locations of ectopic thyroid and its benign nature, it may be incidentally detected on CT scans done for nonrelated reasons. Various modalities have been deemed useful for evaluation. Ultrasound has advantages of being noninvasive with lack of radiation exposure. It is extremely useful for diagnosing a cervical ectopic thyroid [10]. Computed tomography is a very sensitive modality for detecting extracervical ectopic thyroid. A CT scan without contrast often shows a slightly increased attenuation (70 HU+/− 10) in comparison to skeletal muscles due to the presence of higher iodine content within thyroid tissue [11]. Contrast enhanced CT scan shows an avid enhancement of the normal thyroid tissue. MRI scans have also been shown to be helpful in visualizing ectopic thyroid with T1 showing isointense to mildly hyperintense and T2 showing mild hyperintensity of normal thyroid tissue compared to muscle. Radionuclide Iodine uptake scans (thyroid scintigraphy) are considered excellent for visualization of ectopic thyroid tissue [11]. It may also help to determine if there is metastasis of malignant thyroid tissue even though this is uncommon in ectopic thyroid [12]. Ultimately, however, a significant proportion of asymptomatic ectopic thyroid cases are ultimately diagnosed only by histological analysis after the mass is excised [6].

Download English Version:

https://daneshyari.com/en/article/8824967

Download Persian Version:

https://daneshyari.com/article/8824967

Daneshyari.com