Incidental non-functional ectopic thyroid in a returning traveller

Introduction

This article presents a case of non-functional ectopic thyroid in a 48-year-old returning traveller. A paratracheal mass was identified on routine imaging for a coryzal illness upon returning from India. Investigations for malignancy, germ cell tumours and ectopic thyroid were negative. Endobronchial ultrasound-guided transbronchial needle aspiration of the paratracheal mass was performed and histological analysis was consistent with ectopic thyroid tissue, with samples staining positively for thyroglobulin. This case highlights the limitations of thyroid scintigraphy in a case of non-functional ectopic thyroid tissue, and the utility of endobronchial ultrasound-guided transbronchial needle aspiration in the investigation of mediastinal tumours of unknown aetiology.

Discussion

Ectopic thyroid tissue is a rare developmental abnormality caused by irregular passage of the thyroid gland during embryogenesis from the foregut to its final pre-tracheal position. It has a prevalence of 1 per 100 000–300 000, but is more common in those with thyroid disease (1 per 4000–8000) (Noussios et al, 2011). In 70% of cases, the entire thyroid is ectopic, and is most commonly sublingual (Basaria et al, 2001). These may be asymptomatic or cause dysphagia, dysphonia and cough, or symptoms of upper airways obstruction if severe. Mediastinal thyroid tissue is rare and is believed to account for 1% of all mediastinal tumours (Noussios et al, 2011).

Thyroid scintigraphy is an important diagnostic tool for investigating ectopic thyroid tissue (Noussios et al, 2011). However, this case highlights the limitation of this technique when involving non-functional tissue. While cross-sectional imaging characterized the mass, a definitive diagnosis required endobronchial ultrasound-guided transbronchial needle aspiration. This is an important technique for staging lung cancer and for characterizing mediastinal lymphadenopathy of unknown aetiology (Navani et al, 2012, 2015). Endobronchial

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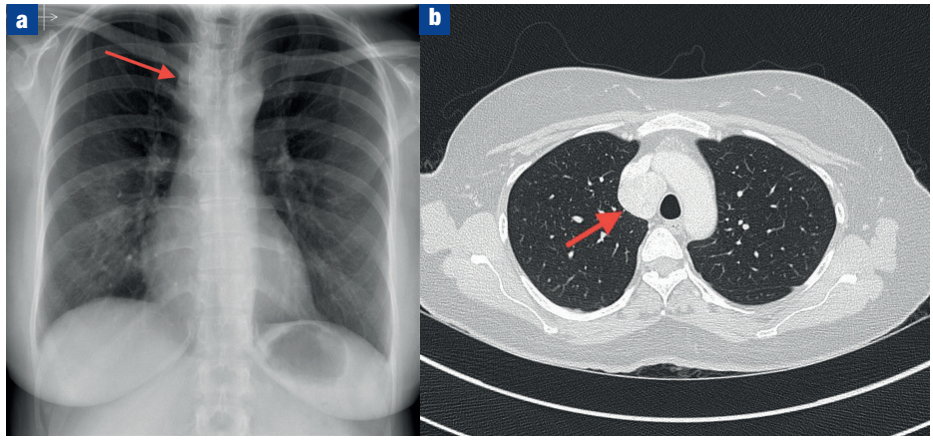
Figure 1. **a.** Chest radiograph showing right paratracheal shadowing. **b.** Contrast-enhanced computed tomography scan of the chest showing a 4.3 x 3.2 x 2.6 cm right paratracheal mass.



CASE REPORT

A 48-year-old woman with no past medical history presented with a 4-day history of fevers, myalgia, a non-productive cough and headache. She had recently returned from a 4-week trip to India. She did not report any weight loss or night sweats. Blood tests revealed a mild normocytic anaemia (haemoglobin 114 g/litre; normal range 115–165 g/litre), mean corpuscular volume 87 fl (normal range 80–96 fl) and an elevated C-reactive protein level of 66 mg/litre (normal range <10 mg/litre). Given the patient's travel, investigations for respiratory viruses, malaria, dengue, rickettsia, scrub typhus and leptospirosis were performed, and were negative.

A chest radiograph demonstrated right paratracheal shadowing (*Figure 1a*), and a computed tomography scan revealed a right paratracheal mass (*Figure 1b*). There was no tracheal compression. On Positron emission tomography computed tomography, the mass was not fludeoxyglucose-avid and no other abnormalities were identified. No ectopic thyroid was identified on thyroid scintigraphy (technetium-99m thyroid scan), and thyroid function tests were normal (thyroid-stimulating hormone 2.85 mU/litre (normal range 0.27–4.20 mU/litre); free thyroxine 13.6 pmol/litre (normal range 12.0–22.0 pmol/litre)). Germ cell biomarkers (alpha feto-protein and beta-human chorionic gonadotropin) were negative. During investigation the patient's symptoms resolved.

An endobronchial ultrasound and transbronchial needle aspiration was performed. Histological examination was consistent with thyroid tissue, with samples staining positively for thyroglobulin, confirming a diagnosis of ectopic thyroid tissue. It is likely that the ectopic thyroid tissue was not functional, hence was not identified on thyroid scintigraphy. The patient's initial presentation was attributed to a viral infection and the ectopic thyroid was an incidental finding.

ultrasound-guided transbronchial needle aspiration has also been suggested as a safe and effective alternative to conventional ultrasound-guided needle aspiration for sampling of thyroid tissue located below the thoracic inlet (Casal et al, 2014), an approach supported by this case. **BJHM**

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LEARNING POINTS

- Ectopic thyroid should form part of the differential diagnosis for patients with mediastinal lesions of unknown aetiology, especially in the absence of B-symptoms.
- Ectopic thyroid can be non-functional and therefore scintigraphy alone cannot be relied upon to diagnose all cases.
- Endobronchial ultrasound-guided transbronchial needle aspiration is an effective diagnostic technique in mediastinal diseases of this nature.

Upper gastrointestinal bleeding caused by fistula of the stomach and splenic artery pseudoaneurysm

A 47-year-old man with chronic pancreatitis potentiated by long-time alcohol consumption was admitted to the emergency medicine department for haematemesis. Emergency oesophagogastroduodenoscopy revealed a spherical growth on the posterior wall of the proximal third of the stomach corpus with three adherent clots, two of which were irrigated with water. Emergency computed tomography angiography of the abdomen showed a pseudocyst of the pancreatic tail with a pseudoaneurysm of the splenic artery. This was causing active extravasation of contrast material into the stomach lumen (*Figure 1*) (Tessier et al, 2003; Budimir et al, 2012).

A right transfemoral approach was used to perform angiography of the visceral branches and showed the truncus coelicus. The splenic artery was selectively catheterized using the Sidewinder 6F guiding catheter. Embolization was performed using the 'sandwich' technique before and after the pseudoaneurysm by installing pushable coils of various dimensions, 6–10 mm wide. The arteriogastric fistula was permanently occluded using glue (*Figure 2*). Control angiography showed a good embolization effect and prompt creation of collateral circulation (gastroduodenal artery) to the spleen. **BJHM**

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Figure 1. Volume-rendering computed tomography image of the splenic artery pseudoaneurysm.

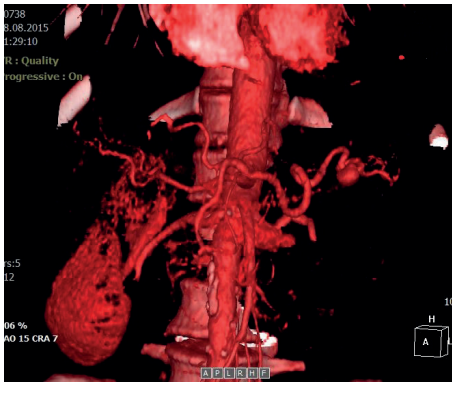

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Figure 2. Follow-up oesophagogastroduodenoscopy showing the location of the obliterated arteriogastric fistula, about 1 mm in diameter, in the proximal third of the stomach.