

Mediastinal Ectopic Thyroid Mass With Normal Thyroid Function and Location

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Abstract :

Introduction : Mediastinal Ectopic Thyroid Gland is a rare entity, accounting for 1% of all mediastinal tumours. Here, we present a rare case of mediastinal mass that was proved to be an ectopic thyroid with normal thyroid function tests and normal thyroid gland in the cervical location. We report in this article two cases illustrating this location.

1st clinical case : 66-year-old woman operated on for benign breast cysts consulted for progressive chest pain. The clinical examination was without abnormalities. The standard biological assessment was normal. Cervicothoracic CT showed two heterogeneous enhancement tissue mediastinal masses, a heterogeneous thyroid gland of normal volume. The surgical procedure consisted of a thymectomy and the anatomopathological study concluded to an intra-thymic ectopic thyroid adenoma.

2nd clinical case : 57-year-old woman consulted for a chronic cough. No anomaly objectified at the clinical examination. The biological assessment including thyroid was normal. The CT scan showed formation of the cervicothoracic orifice whose density evoked a thyroid or parathyroid nodule. The mass was excised and the pathology found a thyroid parenchyma with no signs of malignancy.

Comments and conclusion: Transcription factor mutations are implicated in thyroid ectopy. Several locations have been described. The mediastinal localization is exceptional. The presence of a eutopic thyroid is frequently associated with the mediastinal location of ectopia. Clinical-biological euthyroidism is as well. Therapeutically, surgery may be indicated in dyspnea or other disabling symptoms.

Introduction:

Thyroid ectopy is rare. The etiopathogenesis becomes more and more well explained. The most frequent localization is at the base of the tongue because of its path during morphogenesis. The mode of discovery as well as the functional status of the ectopic tissue differs according to the location. Mediastinal localization is even rarer or even exceptional. We report in this article two cases illustrating this location.

1st Clinical case:

This is a 66-year-old woman with a history of osteoporosis under bisphosphonates who underwent surgery for a benign left breast cyst three years ago. She consulted the emergency rooms of the Charles Nicole Hospital for atypical chest pain of progressive installation with similar episodes for 2 years that she neglected them. The physical examination showed an eupneic patient. The pulmonary auscultation was normal, the blood pressure too. The rest of the exam was without abnormalities. A chest X-ray was performed showing enlargement of the upper mediastinum. The standard biological assessment was normal. Cervicothoracic CT (Fig. 1) showed two mediastinal masses of lobulated contours with spontaneous density and heterogeneous enhancement, related to a range of necrosis. The first is superior mediastinal located immediately below the thyroid isthmus, between the brachiocephalic arterial trunk and the left innominate vein without evidence of invasion measuring 18 * 12mm. The second occupies the antero-superior mediastinum, lateralized on the right and measures 72 * 53mm in an axial plane and extends in height to 75 mm. It comes into contact with the termination of the left innominate vein, the ascending aorta, the internal mammary vessels, and the ventral segment of the right upper lobe, with no evidence of invasion. The thyroid gland is in place heterogeneous and of normal volume.

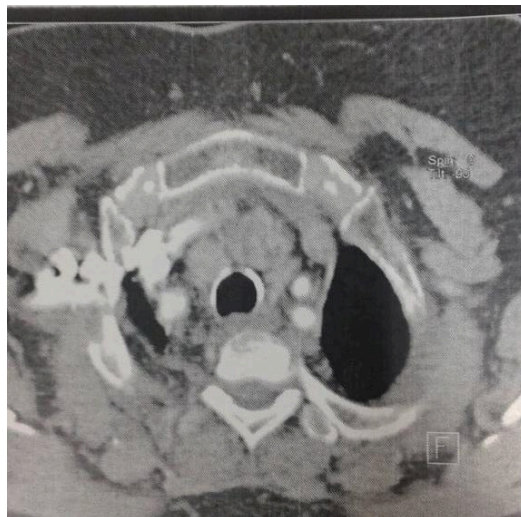


Fig1: Axial CT scan showing the 2nd mediastinal mass

The patient underwent surgery consisting of a total thymectomy enlarged to mediastinal fat under video-assisted mini-thoracotomy. The postoperative course was simple. The pathological study concluded to an intra-thymic ectopic thyroid adenoma.

2nd Clinical Case:

This is a 57-year-old woman with a history of osteoporosis. She consulted a pulmonologist for a chronic cough. The physical examination did not show any abnormalities. The biological assessment was normal even the thyroid assessment. She underwent cervico-thoracic computed tomography (fig2) showing an anterosuperior mediastinal mass, well limited, measuring 18 * 22mm in the axial plane and 21mm in height. The density is measured at 73

Surgical excision of the mass was performed by cervicotomy. No incidents per or postoperative. The anathomopathological study concluded to a thyroid parenchyma without signs of malignancy.

Most frequently it is an incidental discovery with no symptoms. But chest pain, dry cough, dyspnoea and hemoptysis have been described as a circumstance of discovery. [5, 6,7].

Scintigraphy is the exam of choice in ectopia. But it can miss the diagnosis in case of non-functional ectopic tissue. Hence the interest of the CT scan. [8,9]. Therapeutically, surgery may be indicated in dyspnoea or other disabling symptoms. [8,10,11].

In our cases, the circumstance of discovery of Ectopic thyroid tissue in the mediastinum are chest pain and dry cough. The two patients have normal thyroid function test with normal anatomical location of the thyroid gland. Mediastinal mass excision was done through a sternotomy incision to reach the anterior mediastinum and extended into the neck to free the tumor from the trachea. The histopathology revealed benign ectopic thyroid tissue.

Conclusion:

Thyroid ectopy is a rare entity. The mediastinal localization is exceptional and can be associated with normal thyroid function and normal thyroid anatomical location.

The ectopic tissue may be the seat of any modification that may affect the thyroid tissue as degeneration; an idea that must be kept in mind in order to be able to monitor in case of therapeutic abstention.

References:

- 1- B.K. Choudhury, U.K. Saikia, Dual ectopic thyroid with normally located thyroid: a case report, *J. Thyroid Res.* 2011 (2011) 159;703 .
- 2- Pasca di Magliano M, Di Lauro R & Zannini MS. Pax8 has a key role in thyroid cell differentiation. *PNAS* 2000 97 13144–13149
- 3- A.Y. Shin, S.H. Lee, W.S. Jung, S.H. Ko, Y.B. Ahn, Ectopic thyroid nodule in thyroglossal duct, *Korean J. Intern. Med.* 26 (2011) 218–9.
- 4- V.V. Mysorekar, C.P. Dandekar, M.R. Sreevathsa, Ectopic thyroid tissue in the parotid salivary gland, *Singapore Med. J.* 45 (2004) 437–8.
- 5- A. Toso, F. Colombani, G. Averono, P. Aluffi, F. Pia, Lingual thyroid causing dysphagia and dyspnoea. Case reports and review of the literature, *Acta Otorhinolaryngol. Ital.* 29 (2009) 213–7.
- 6- Ectopic thyroid tissue: anatomical, clinical, and surgical implications of a rare entity George Noussios, *European Journal of Endocrinology* (2011) 165 ;375–82.
- 7- / Relato de caso Tireoide ectópica no mediastino anterior* Maria José Araújo da Cunha Guimarães and AL¹
- 8- J. Sand, E. Pehkonen, J. Mattila, S. Seppanen, J. Salmi, Pulsating mass at the sternum: a primary carcinoma of ectopic mediastinal thyroid, *J. Thorac. Cardiovasc. Surg.* 112 (1996) 833–835
- 9- / Ectopic thyroid: the role of thyroid scan Traore Ababacar Abdoulaye¹, & Traore Zakaria¹ *Pan African Medical Journal.* 2017
- 10- Ectopic thyroid gland in the submandibular region simulating a thyroglossal duct cyst: A case report, *V. Di Benedetto*, *Journal of pediatric surgery*
- 11- Thyroid tissue as a submandibular mass: a case report, Faramarz Babazade and Al, *Journal of Oral Science* 2009