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Case Report / Olgu Sunumu

Papillary carcinoma in the mediastinal ectopic thyroid tissue accompanying a normal thyroid tissue of the neck: a case report

Boyundaki normal tiroid dokusuna eşlik eden mediasten yerleşimli ektopik tiroid dokusunda papiller karsinom: Olgu sunumu

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A 42-year-old male patient's posteroanterior chest radiography showed homogenous opacity located at right-sided upper paratracheal region and thoracic computed tomography revealed a mass located at posterior mediastinum, which resulted in no complaint. Positron emission tomography showed a benign lesion with an insufficient I-131 uptake. The mass was resected by thoracotomy. Histopathologic examination revealed papillary carcinoma of ectopic thyroid tissue showing follicular variant. Bilateral subtotal thyroidectomy was performed. No malignancy in thyroid tissue was found in the histopathological examination. This case was presented because of being a rare case with follicular carcinoma in the mediastinal thyroid tissue without any malignancy in the thyroid tissue of the neck.

Key words: Ectopic thyroid tissue; papillary thyroid carcinoma; thoracic imaging; toracotomy.

Herhangi bir yakınması olmayan 42 yaşında erkek hastanın tesadüfen çekilen posteroanterior akciğer grafisinde sağ paratrakeal alanda homojen opasite ve toraks tomografisinde posterior mediasten yerleşimli kitle saptandı. Pozitron emisyon tomografide lezyon benign özellikte idi ve yetersiz I-131 tutuyordu. Kitle torakotomi ile çıkartıldı. Histolojik incelemede ektopik tiroid dokusunda foliküler varyant gösteren papiller karsinom saptandı. İki taraflı subtotal tiroidektomi yapıldı. Histolojik incelemede tiroid dokusunda malignite saptanmadı. Bu olgu, boyun tiroid dokusunda malignite olmaksızın, mediasten yerleşimli olduğu saptanan tiroid dokusunda foliküler yerleşimli papiller karsinom saptanması açısından nadir görülen bir olgu olması nedeniyle sunulmuştur.

Anahtar sözcükler: Ektopik tiroid dokusu; papiller tiroid karsinomu; toraks görüntülemesi; torakotomi.

Ectopic thyroid tissue develops through the abnormal migration of thyroid tissue at the embryologic period,[1-3] and it is mainly situated at the anterior mediastinal location of the intrathoracic region. Although malignant transformation of the ectopic thyroid tissue is not frequent, development of papillary carcinoma has been reported.

CASE REPORT

The patient was a 42-year-old male without any complaints, and he had no smoking habit. His medical history and that of his family were unremarkable. The physical examination, laboratory findings, and respiratory function tests were all normal.

An incidental examination of a posteroanterior chest radiography revealed the presence of a homogenous opacity located at the right side of the upper paratracheal region (Figure 1). A computed tomography (CT) scan showed a heterogeneous and hyperdense mass of 5x7x8 cms in dimension that was lobulated and had fine borders. This lesion seemed to be associated with the right lobe of the thyroid gland. The trachea was slightly deviated to the left under the pressure of the mass (Figure 2). A radioactive iodine (I-131) thyroid uptake

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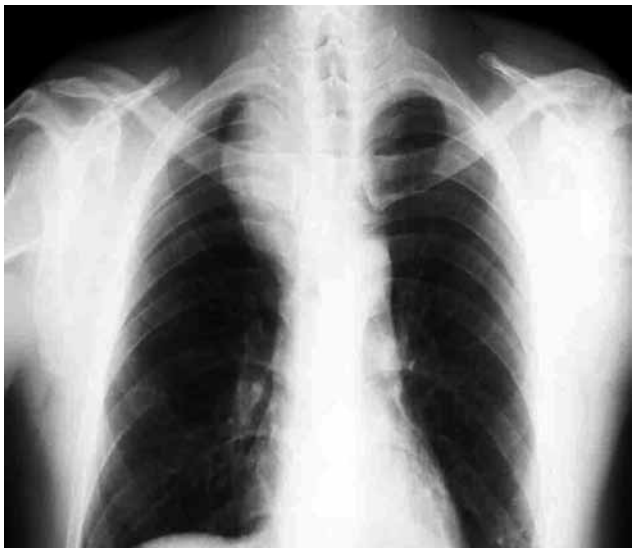

Figure 1. In the chest X-ray of the patient the right upper paratracheal opacity is seen.

of the mass was not evident via thyroid scintigraphy. A positron emission tomography (PET) scan of the lesion, which was demonstrated on the CT scan, revealed a low fluoro-2-deoxyglucose (FDG) uptake. Therefore, this lesion was first considered to be benign. For a definitive and differential diagnosis, a thoracotomy was planned.

The patient underwent the thoracotomy, and the mass seemed to be emanating from the mediastinum and feeding vessel was originated from the ascending aorta. It was easily removed from the surrounding tissues. The examination of the material showed evidence of papillary carcinoma of follicular variant at the ectopic thyroid tissue. Subsequently, other investigations focusing on the thyroid gland were carried out. Thyroid scintigraphy undertaken with Tc-99m metboxyisobutylisonitrile (MIBI) was normal. Fine needle aspiration cytology (FNAC) of the mass showed clusters of diskaryotic thyrocytes. The pathological results indicated a follicular pathology; therefore, removal of the mass was planned. A histological examination of the thyroidectomy material demonstrated multiple nodules with rich colloid material, millimetric calcified foci in some of the nodules, reactive hyperplasia at nine lymph nodes, and focal papillary progression. This papillary progression was not shown to be carcinomatous (Figure 3).

Finally, the lesion at the mediastinum was accepted as ectopic thyroid tissue since it had no association with the thyroid tissue in either the thoracotomy or thyroid scintigraphy with Tc-99m MIBI. The patient was described as a case of papillary carcinoma of follicular variant presenting as a mediastinal mass in the ectopic thyroid tissue. However, no malignant findings were found in the thyroid tissue. Postoperative radioactive iodine therapy with 150 mcl was carried out. The patient is still being followed up regularly.

DISCUSSION

Ectopic thyroid tissue usually develops prenatally through the abnormal migration of the thyroid tissue in the embryonic period. It generally resides anywhere along its embryologic pathway of descent. It may be found at the base of the tongue as well as the supra- and subhyoid bone. It is often misdiagnosed as thyroglossal duct cysts.[1-3]

The incidence of intrathoracic thyroid in thyroidectomy serials is determined as 0.1-21%.[1] They may be asymptomatic and only demonstrated via posteroanterior chest radiography. The patients are usually euthyroid or hypothyroid.[4-6] Our patient was also hypothyroid. Although the trachea was slightly

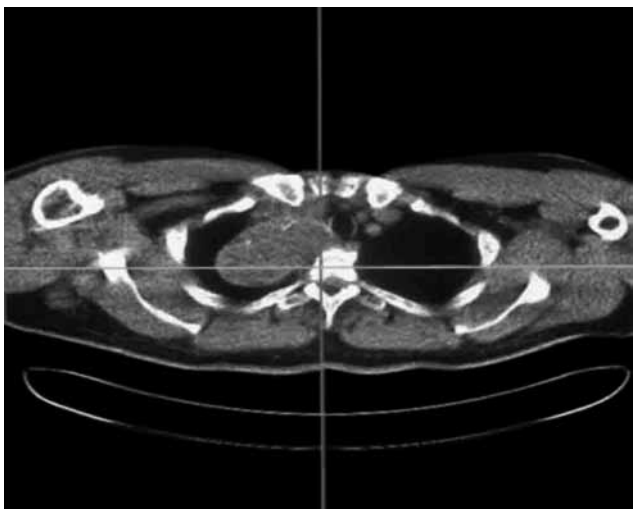

Figure 2. In the PET-CT of the patient the right posterior mediastinum mass is seen.

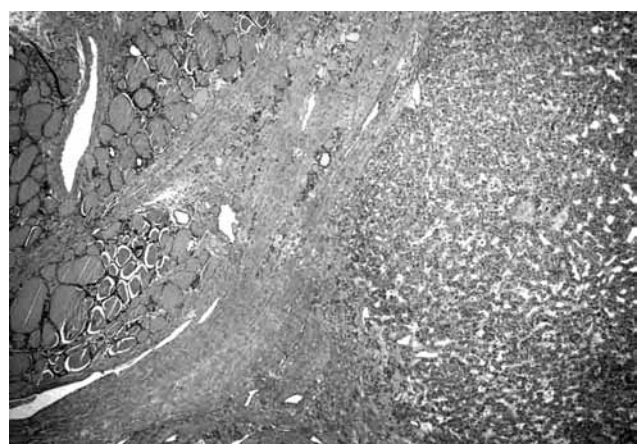

Figure 3. Thyroid tissue and carcinoma cells seen at x40 with hematoxylin and eosin (H-E x 40) staining.

deviated to the right because of compression, the patient was asymptomatic.[2]

An intrathoracic goiter is usually located at the frontal mediastinum,[1] but in our case, the mass was located at the posterior mediastinum. It is rarely misdiagnosed as a fibrotic band or a narrow thyroid tissue. To describe the association of the lesion with the thyroid tissue, thyroid isotope scanning, a CT scan or magnetic resonance imaging can be carried out. The CT scan of our patient showed an association of the mediastinal mass with the right lobe of the thyroid gland, but scintigraphy failed to show this association. The thoracotomy revealed that the mass was not related to the thyroid gland.

An ectopic thyroid is rarely demonstrated in the trachea and esophageal wall.[1]

The malignant transformation of an ectopic thyroid is not common, and in such cases, it is generally a papillary carcinoma, but this transformation of an ectopic thyroid without a presenting tumor in the thyroid gland is extremely rare.[4,5] Metastasis should be taken into consideration in the differential diagnosis. In our case, we did not think of metastasis because the pathological evaluation did not reveal malignancy in the thyroid tissue. In histopathological analysis, follicular variant papillary carcinoma was detected. There was no regional lymph node involvement. Radioiodine ablation was performed after surgery, The patient is still in remission and has had no problems for three years.

Declaration of conflicting interests

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REFERENCES

1. Ling L, Zhou SH, Wang SQ, Wang LJ. Misdiagnosed ectopic thyroid carcinoma: report of two cases. Chin Med J (Engl) 2004;117:1588-9.
2. Gürer S, Aran Ö, Al-Dahr A, Sanaç Y. A rare thyroid carcinoma in ectopic thyroid tissue. Journal of Islamic Academy of Sciences 1991:4;139-40.
3. Lee HY, Chen MH, Wang CY. Thyroid papillary carcinoma in subhyoid ectopic thyroid tissue. N Z Med J 2004;117:U1205.
4. Sidhu S, Lioe TF, Clements B. Thyroid papillary carcinoma in lateral neck cyst: missed primary tumour or ectopic thyroid carcinoma within a branchial cyst? J Laryngol Otol 2000;114:716-8.
5. Matsumoto K, Watanabe Y, Asano G. Thyroid papillary carcinoma arising in ectopic thyroid tissue within a branchial cleft cyst. Pathol Int 1999;49:444-6.
6. Yoshino M, Mizobuchi T, Fujiwara T, Noro M, Akikusa B, Iwai N. Large mediastinal cyst of an ectopic thyroid with small nodules diagnosed as papillary carcinoma. Jpn J Thorac Cardiovasc Surg 2006;54:550-4.