

Follicular Thyroid Carcinoma Metastasis to the Sternum: Case Report

Sternuma Metastaz Yapan Foliküler Tiroid Kanseri

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ABSTRACT Follicular thyroid carcinoma (FTC), is the second most common differentiated thyroid cancer. It usually metastasize to lung and bone hematogeneously. Sternal metastasis of FTC is extremely rare. Carcinoma metastasis to sternum is found most frequently in breast and lung cancers. sixty-seven years old woman presented with a gradually enlarging neck mass of two months duration. We detected FTC metastasis to sternum after seven years to thyroidectomy. Sternal manubrium excision and revised total thyroidectomy were done. After that, radioactive iodine 131 (RAI) ablation treatment was also performed. We herein report very rare presentation of thyroid follicular carcinoma that metastasized to sternum.

Key Words: Thyroid neoplasms, neoplasm metastasis, sternum

ÖZET Foliküler tiroid karsinomu (FTK), diferansiye tiroid kanserleri arasında ikinci sıklıkla izlenir. En sık hematogen yol ile akciğere ve kemiğe metastaz yapar. FTK sternal metastazı çok nadir olarak izlenir. Sternuma en sık metastaz yapan kanserler ise akciğer ve meme kanserleridir. Altmış yedi yaşında kadın hasta son iki ay içerisinde boyunda hızlı büyüyen kitle şikâyeti ile başvurdu. Hastada tiroidektomiden yedi yıl sonra sternal FTK metastazı saptandı. Hastaya tamamlayıcı tiroidektomi ile birlikte sternal metastaz eksiyonu yapıldı ve radyoaktif iyot (RAI) ablasyon tedavisi uygulandı. Bu çalışma, foliküler tiroid kanserinin sternuma metastaz yapmasının çok nadir olması sebebi ile sunulmuştur.

Anahtar Kelimeler: Tiroid kanserleri, sternal metastaz, sternum

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Follicular thyroid carcinoma (FTC) is the second most common thyroid cancer after papillary carcinoma. It accounts for 10-20% of all thyroid malignancies and is most often seen in patients over forty years of age.¹ The tumor usually presents as an asymptomatic solitary intrathyroid nodule. These neoplasms tend to metastasize hematogeneously, most commonly affected sites are lung, bones, kidney and breast. Distant metastases at the time of diagnosis are reported in 10-50% of patients.^{2,3} Treatment of distant metastases is usually not curative but may produce significant palliation. Follicular thyroid carcinoma with metastases to sternum is rare. This report describes a patient with sternal metastases from follicular thyroid carcinoma.

CASE REPORT

We present a 67 years-old woman who had a past history of thyroid disease. Total thyroidectomy was performed on 2000 followed by levothyroxine supplementation for a year. She was admitted hospital with complaints of pain and swelling in the neck for about two months. Thyroid function test results were in the normal range. Thyroid ultrasonography (USG) findings were a nodule 33 x 30 x 28 mm in the right lobe and a mass extending into the retrosternal area in the left lobe. Computed tomography scan of the neck and thorax showed soft tissue swelling with destruction of the underlying sternum. No invasion of the tumor into the thoracic cavity was found (Figure 1, 2). Biopsy taken from sternal mass revealed a follicular thyroid carcinoma metastasis. Scintigraphic bone images showed increased pathological activation in the corpus of sternum. Sternal manibrium excision and

revised total thyroidectomy were done. After that, radioactive iodine 131 (RAI) ablation treatment was also performed.

DISCUSSION

The incidence of thyroid carcinoma the most common tumor of endocrine system is about 3.7 to 4 per 100,000 population, accounting for approximately 1% of malignancies. Thyroid carcinoma occurs in young or middle aged adults, and is two to four times more frequent in females.⁴ Follicular carcinoma accounts for 10-15% of clinically evident thyroid malignancies. Distant metastases of differentiated thyroid cancer are usually localized to the lung and bone; less common sites of metastases are the brain, liver and skin, other sites being exceptionally rare.⁵

Immediate suspension of supplementary thyroid-stimulating hormone or thyroxine may cause

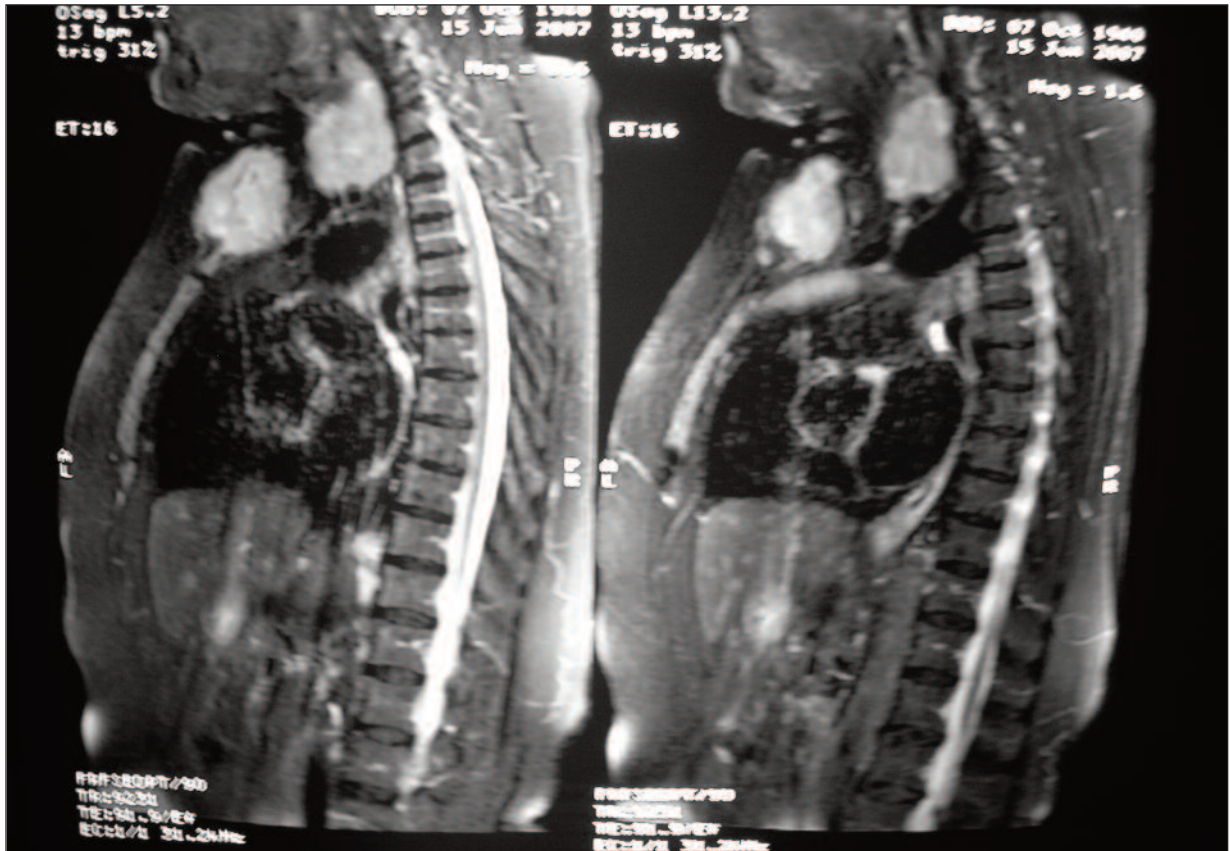


FIGURE 1: CT of sagittal section: Computed tomography scan of the neck and thorax showed soft tissue swelling with destruction of the underlying sternum.

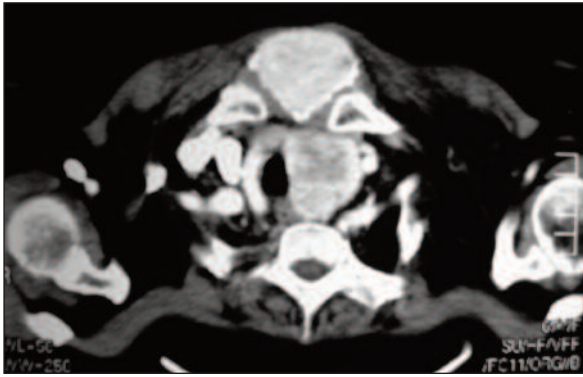


FIGURE 2: CT of coronal section: Computed tomography scan of the neck and thorax showed soft tissue swelling with destruction of the underlying sternum.

rapid tumor regression, and so thyroid hormone supplementation may be effective.⁴

The differential diagnosis of lesions involving the sternum includes chondroma, osteochondroma, bone cyst, primary bone malignancies and soft-tissue tumors and metastases. Secondary lesions of the sternum occur more commonly in patients with lung or breast cancer, and only a few cases of

sternal metastasis arising from a thyroid carcinoma have been reported in the literature.⁵

Today, administration of radioactive iodine-131 is widely used for ablation therapy. However, this treatment has some difficulties regarding the tissue affinity of iodine-131. The effect of radioactive ablation on bone metastasis is very restricted. This may be due to reduced sensitivity to radioiodine, possibly attributable to a lower capacity of absorption which could be related to the expression of a higher percentage of poorly differentiated tumor cells.^{6,7} Surgery is considered as the treatment for the majority of primary sternal tumors, and arguably for metastatic lesions. The indications for surgery in order to treat bone metastases are mentioned only in individual cases, but in general surgery resection is recommended if the metastasis is solitary and suitable for resection.^{5,8-10}

In conclusion, this case is found to be important because of the rare occurrence of sternum metastasis in patients with follicular thyroid carcinoma.

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