



Incidental Spleen Cyst Mimicking Thyroid Carcinoma Metastasis: False-positive Uptake on Radioiodine Whole Body Scan

Tiroid Karsinom Metastazını Taklit Eden Rastlantısal Dalak Kisti: Radyoaktif İyot Tüm Vücut Taramada Yanlış Pozitif Tutulum

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Abstract

In differentiated thyroid cancer, radioiodine therapy and whole body scans (WBS) are integral part of disease management. We present the case of a 33-year-old woman with multifocal thyroid carcinoma who was treated with radioiodine. Post-treatment WBS scintigraphy showed focal increased I-131 uptake in the spleen, although stimulated thyroglobulin level was not suggestive of distant metastasis. Dynamic magnetic resonance imaging performed later revealed that the finding was an incidental splenic cyst. Radioiodine uptake is not specific to the thyroid tissue. Benign pathologies showing increased radioiodine uptake should be considered in cases with splenic radioiodine accumulation in WBSs.

Keywords: Radioiodine therapy, thyroid cancer, spleen pathologies, whole body scan

Öz

Diferansiye tiroid kanserinde, radyoaktif iyot tedavisi ve tüm vücut tarama (TVT) sintigrafisi hastalık yönetiminin ayrılmaz bir parçasıdır. Radyoaktif iyot ile tedavi edilen multifokal tiroid karsinomlu 33 yaşında kadın hastayı sunuyoruz. Tedavi sonrası TVT sintigrafisinde, dalakta fokal artmış I-131 tutulumu saptandı. Ancak uyarılmış tiroglobulin düzeyi uzak metastaz ile uyumlu değildi. Daha sonra karaciğere yönelik yapılan dinamik manyetik rezonans görüntüleme bulgunun rastlantısal bir dalak kisti olduğunu ortaya çıkardı. Radyoaktif iyot tutulumu tiroid dokusuna özgü değildir. Radyoaktif iyot ile TVT'de dalakta aktivite tutulumu saptanan olgularda artmış radyoaktif iyot tutulumu gösteren benign patolojiler de düşünülmelidir.

Anahtar kelimeler: Radyoaktif iyot tedavisi, tiroid kanseri, dalak patolojileri, tüm vücut tarama

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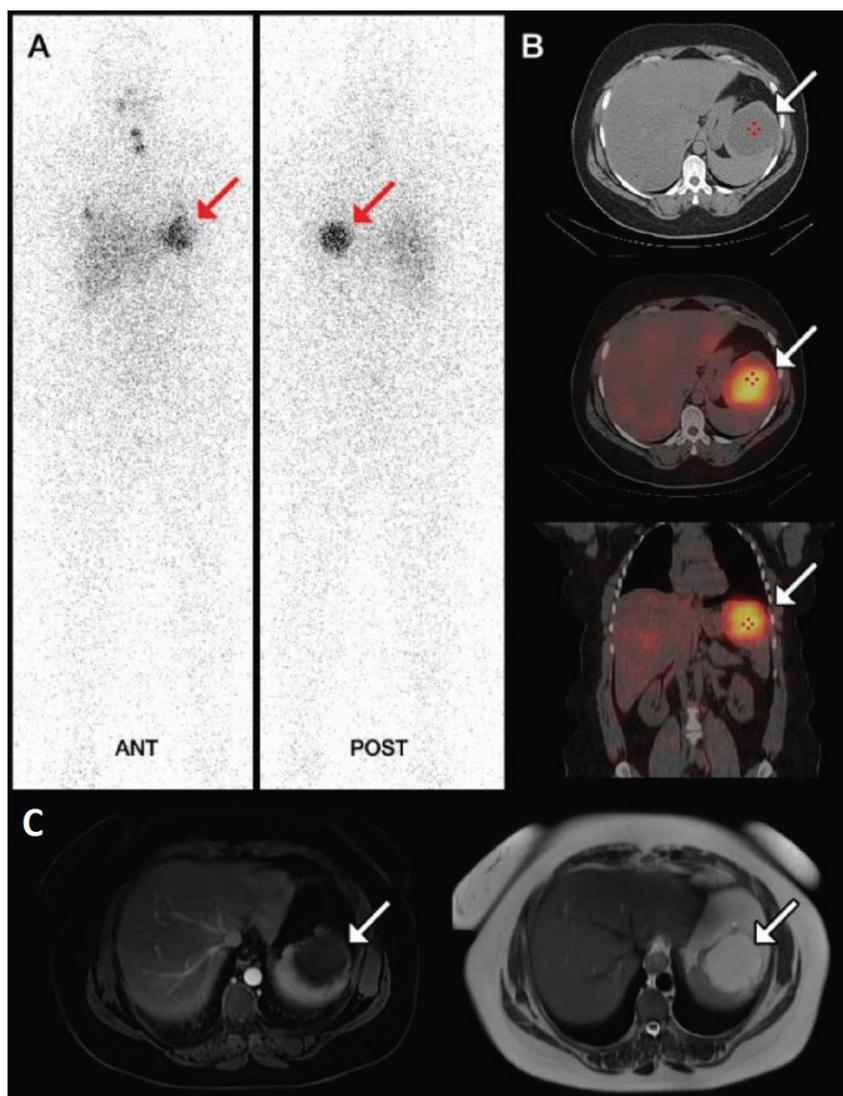


Figure 1. Total thyroidectomy was performed on a 33-year-old female patient with no known comorbidities. The pathology result was reported as diffuse sclerosing variant multifocal papillary thyroid carcinoma. Thereupon, 100 mCi radioactive iodine treatment was given to the patient in our clinic [thyroid stimulating hormone: 137.9, thyroglobulin (Tg): <0.20, anti-Tg: 92.2]. In the whole body scan (WBS) performed on the 7th day after the treatment, there were areas of activity uptake in the left thyroid lobe lodge and inferior proximity of the hyoid bone, possibly due to residual tissue and thyroglossal canal. In addition, focal activity uptake was observed in the left upper quadrant of the abdomen (Figure 1A). Radiopharmaceutical distribution in other areas was as expected. For anatomical correlation, single photon emission tomography/computed tomography imaging was performed by positioning the abdominal region in the field of view, which revealed a hypodense lesion measuring 83x71 mm in the superior anterior part of the spleen with a calcified appearance on the wall and increased I-131 uptake within the lesion (Figure 1B).

In the dynamic magnetic resonance imaging performed to clarify this finding, the lesion with a diameter of 8 cm in the upper pole of the spleen was evaluated as an uniloculated cyst (Figure 1C).

Thyroid cancer accounts for 2.1% of all cancer cases worldwide. Approximately 90% of these cases are well-differentiated thyroid carcinoma (DTC) (1). Splenic metastasis is rare in DTC (2). Radioiodine has been used for more than fifty years in the diagnosis and treatment of patients with DTC (3). Radioiodine WBS is also an integral part of disease management (4). Radioiodine uptake is not specific to the thyroid tissue. There may be physiological uptake in the thymus, breast and gastrointestinal system. In addition, radioiodine uptake can be seen in benign conditions such as cysts and inflammation and in non-thyroid tumors (5). Radioiodine uptake in the spleen is very rare, with only 2 cases reported in the literature so far. In one of these cases, diffuse radioiodine uptake was detected in the spleen in post-treatment WBS, and thyroid cancer metastasis was proven by biopsy (2). On the other hand, radioiodine uptake was observed in the spleen in diagnostic WBS, and a littoral cell angioma was found in the biopsy result (6). In this study, we observed radioiodine uptake in benign splenic pathology. To our knowledge, radioiodine uptake of splenic cystic lesions has not been reported before. Splenic cystic lesions as a possible cause of false positive splenic radioiodine uptake mimicking metastasis should be kept in mind to avoid misdiagnosis in patients with DTC.

Ethics

Informed Consent: All appropriate patient consent forms were obtained. In this form, the patient gave consent for their pictures and other clinical information to be reported in the journal.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.G., N.C., S.T., Concept: M.G., N.C., S.T., Design: M.G., N.C., S.T., Data Collection or Processing: M.G., N.C., S.T., Analysis or interpretation: M.G., N.C., S.T., Literature Search: M.G., N.C., S.T., Writing: M.G., N.C., S.T.

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