Interesting Image

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Extensive Malignant Thrombus Revealed by ^{18}F-FDG PET/CT in Patient with Papillary Thyroid Cancer

Papiller Tiroid Karsinomlu Hastada ^{18}F-FDG PET/BT ile Saptanan Yaygın Malign Trombüs

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Abstract

A 59-year-old man admitted to the hospital complained of left arm and neck pain. Magnetic resonance imaging was performed for possible cervical discopathy. It revealed that in the C7 vertebral body, lesions with surrounding bone marrow edema were observed, which were compatible with metastasis that caused cervical stenosis. Cervical stenosis surgery was performed, and the lesion was pathologically diagnosed as a metastasis of thyroid carcinoma. ^{18}F-fluorodeoxyglucose positron emission tomography/computed tomography (^{18}F-FDG PET/CT) scan was ordered for further evaluation. The PET/CT images showed an increased ^{18}F-FDG uptake from the left internal jugular vein to the right atrium. It was considered a malignant thrombus.

Keywords: Malignant thrombus, ^{18}F-FDG PET/CT, papillary thyroid cancer

Öz

Elli dokuz yaşındaki erkek hasta hastanemize, sol kol ve boyun ağrısı şikayetiyle başvurdu. Hastaya servikal diskopati ön tanısı ile manyetik rezonans görüntüleme yapıldı. C7 vertebra korpusunda servikal stenoza neden olan metastaz ile uyumlu, çevresinde kemik iliği ödemi bulunan kitle saptandı. Hasta servikal stenoz nedeniyle opere edildi. Patolojik incelemede tiroid karsinomu metastazı tanısı konuldu. Daha ileri değerlendirme için ile ^{18}F-florodeoksiglukoz pozitron emisyon tomografisi/bilgisayarlı tomografi (^{18}F-FDG PET/BT) taraması istendi. PET/BT görüntülemede sol internal juguler venden sağ atriyuma doğru uzanan ^{18}F-FDG tutulumu, yaygın malign trombüs olarak değerlendirildi.

Anahtar kelimeler: Malign trombüs, ^{18}F-FDG PET/CT, papiller tiroid kanseri

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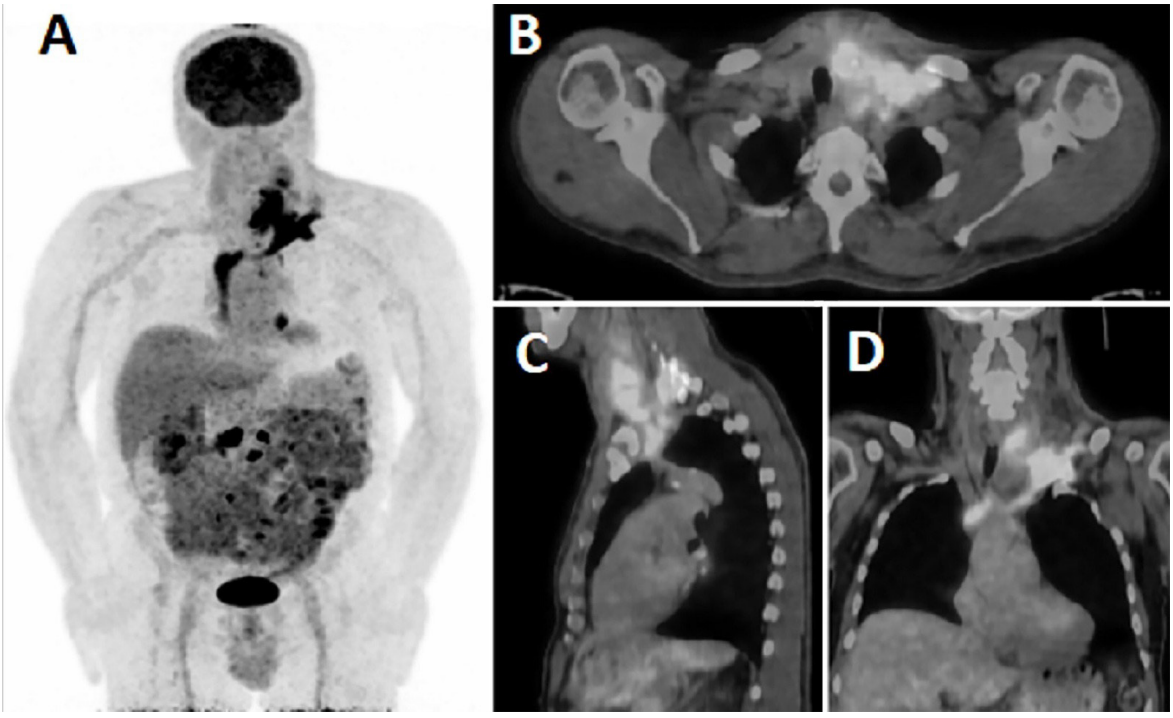

Figure 1. A 59-year-old man, who has been operated on for cervical stenosis at the C7 vertebral level, had a lesion that was pathologically positive for CK7, thyroglobulin, and thyroid transcription factor-1, and was diagnosed with thyroid carcinoma metastasis. Ultrasonography revealed a 44x40 mm-sized nodular lesion with irregular borders, that was filling the left lobe of the thyroid. A tru-cut biopsy confirmed the papillary thyroid carcinoma. In this context, ^{18}F-fluorodeoxyglucose positron emission tomography/computed tomography (^{18}F-FDG PET/CT) scan was ordered for further evaluation. Maximum intensity projection (A), transaxial (B), sagittal (C) and, coronal (D) fused PET/CT images showed intense ^{18}F-FDG uptake in the left internal jugular vein extending to the right atrium (SUV_{max} 12,21) considered as a malignant thrombus. Also, hypermetabolic nodular lesions in the left lobe of the thyroid gland and left hilar, paraaortic, paranasal, and parailiac lymphadenopathies, were observed.

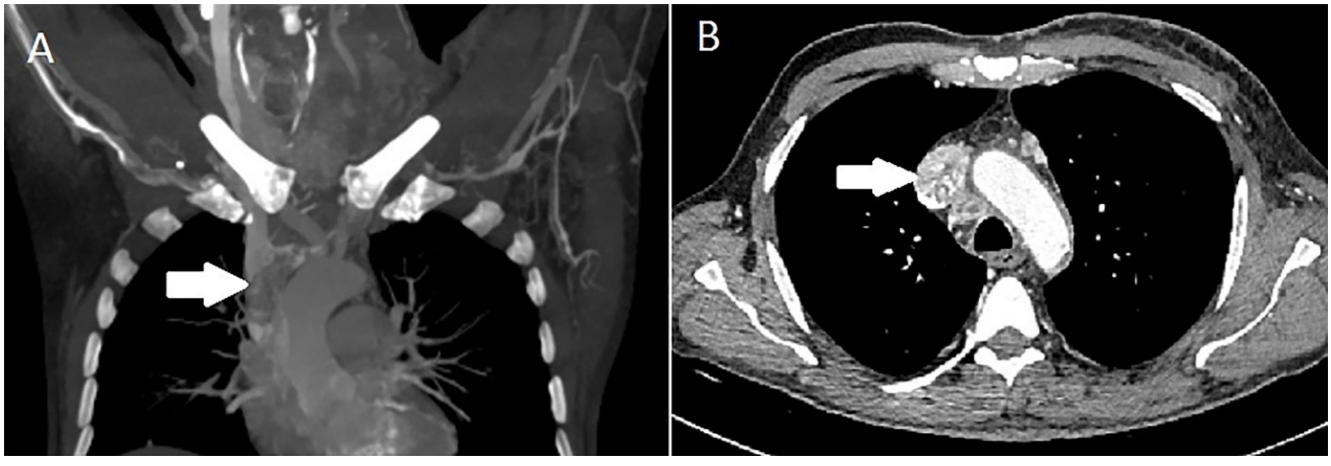

Figure 2. Dynamic contrast-enhanced computed tomography showed a massive malignant thrombus in the dilated left internal jugular vein (A) and extending to the right atrium (B). The intense fluoro-D-glucose uptake is considered to be a malignant thrombus in correspondence with these observations. The presence of intravascular tumor thrombus in a vessel is a significant factor that influences the stage, prognosis, and treatment and is commonly observed in a range of malignancies, including renal cell carcinoma, Wilms tumor, adrenal cortical carcinoma, and hepatocellular carcinoma. Thyroid carcinoma with major vascular malignant thrombosis is rare (1). Although regional cervical lymphatic metastasis is expected in papillary thyroid carcinoma patients, the incidence of hematogenous metastasis in these patients is relatively low (2). In this case, there was a notably widespread malignant thrombosis. There have been several reports on malignant thrombosis in major veins in follicular thyroid carcinoma (3,4). Papillary thyroid carcinoma (5) and anaplastic carcinoma (6).

Ethics

Informed Consent: The patient provided written informed consent for the publication of his images.

Footnotes

Authorship Contributions

Surgical and Medical Practices: M.N.C.T, L.P, H.Ö, G.K.G, Concept: M.N.C.T, L.P, H.Ö, G.K.G, Design: M.N.C.T, L.P, H.Ö, G.K.G, Data Collection or Processing: M.N.C.T, L.P, H.Ö, G.K.G, Analysis or Interpretation: M.N.C.T, L.P, H.Ö, G.K.G, Literature Search: M.N.C.T, L.P, H.Ö, G.K.G, Writing: M.N.C.T, L.P, H.Ö, G.K.G.

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