Interesting images

Caval Seminoma Thrombus on FDG PET/CT

Trombo tumoral en cava detectado con FDG PET/TAC en un caso de seminoma

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A R T I C L E   I N F O

Article history:
Received 4 December 2013
Accepted 11 January 2014

Figure 1. The initial staging FDG PET/CT images (Figure 1A [Maximum intensity projection (MIP) image]), showed intense hypermetabolic retroperitoneal lymph nodes (SUVmax=8.4) (arrow heads in Figure 1B [coronal PET, CT and fusion PET/CT images] and C [axial PET, CT and fusion PET/CT images]) and segmental FDG uptake in the inferior vena cava below renal veins suggestive for tumor thrombus (arrows in Figure 1B and C). Sequential contrast enhanced abdominal MR images clearly showed the intraluminal mass and supported our initial diagnosis (arrows in Figure 1D [axial and coronal MR images]).

A 39-year-old male patient with testicular seminoma underwent right radical orchiectomy. After surgery he referred to FDG PET/CT for initial staging (Figure 1A). Besides intense hypermetabolic retroperitoneal lymph nodes (arrow heads in Figure 1B and C), it showed segmental FDG uptake in the inferior vena cava below renal veins suggestive for tumor thrombus (arrows in Figure 1B and C). Since we use oral but not i.v. contrast material in our daily FDG PET/CT practice we could not anatomically demonstrate the caval thrombus. However, sequential contrast enhanced abdominal MR images clearly showed the intraluminal mass and supported our initial diagnosis (arrows in Figure 1D). After detection of the caval tumor thrombus, the patient received low molecular weight heparin as anticoagulant treatment. The seminomas are the most common testicular tumors but their involvement of inferior vena cava is a rare complication.1,2 The appearance and utility of FDG PET/CT in the detection and evaluation of extension of this rare entity has not been reported yet. In a recent study it was shown that FDG PET/CT can differentiate active tumor thrombosis from benign thrombus and SUVmax values > 3.63 were associated with tumor thrombosis rather than benign thrombus.3 According to this study, the intense hypermetabolism (SUVmax = 9.2) within the caval thrombus in the presented patient was also supported our initial diagnosis. Identification of caval thrombus in seminoma will lead to a significant change in patients' management. Because of this, PET/CT readers should be aware of this rare situation especially in the presence of intense hypermetabolic bulky retroperitoneal lymphadenopathies as in our case.

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http://dx.doi.org/10.1016/j.remn.2014.01.004
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