Interesting images

Invasive urothelial carcinoma detected in bladder diverticulum with FDG PET/CT: A rare case with negative cystoscopy

Detección de carcinoma urotelial invasivo sobre divertículo vesical mediante FDG PET/TAC. Un caso raro con cistoscopia negativa

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A 66-year-old male patient with painless gross hematuria was admitted to the urology outpatient clinic. Urinary tract ultrasoundography was performed and it did not reveal any pathology. Sequential cystoscopy was also normal. A necrotic LAP (8 cm in diameter) adjacent to the urinary bladder was reported in abdominopelvic CT scan. The patient was referred to FDG PET/CT because of his high clinical suspicion of malignancy and to detect any other possible abnormalities in the rest of the body that were concomitant to previously reported necrotic lymph node. A large, intense hypermetabolic mass (5 cm in diameter; SUVmax: 33.5) in the left-sided bladder diverticulum was the only pathological finding on FDG PET/CT. We encouraged the patient to drink 800 ml of water after whole body PET/CT scan and reobtained an additional pelvic PET/CT scan, in order to eliminate physiological

Fig. 1. FDG PET/CT showed a large, intense hypermetabolic mass (5 cm in diameter; SUVmax: 33.5) in the left-sided bladder diverticulum (arrowheads in A, maximum intensity projection [MIP] image; B, axial and C, coronal PET, CT, and fusion PET/CT images).

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urinary activity and to visualise bladder walls more clearly (Fig. 1). The patient underwent transurethral partial resection of the bladder diverticulum. Invasive urothelial carcinoma with sarcomatoid differentiation was proven histopathologically. Diverticular urothelium has a predisposition to malignant degeneration because of the chronic mucosal irritation due to urinary stasis and prolonged exposure to urinary carcinogens. Up to 33.3% of patients with vesical diverticula, neoplasms develop within the diverticulum. Early tumour invasion through the thin diverticular wall results in poorer prognosis compared to other malignancies arising from the bladder. Cystoscopy is a reliable method for diagnosing most bladder neoplasms. However some diverticula, particularly those with a narrow orifice, are inaccessible or may be missed. Although bladder diverticular cancer that is continuous from and within the tumour revealed by FDG PET/CT was described before the existence of a vesical tumour located only in the bladder diverticulum depicted by FDG PET/CT has not been reported yet. In current oncological practice FDG PET/CT has not been routinely used in urothelial cancers; however, it may be a good alternative to conventional diagnostic modalities in patients with high clinical suspicion of malignancy as in our case.

References