Interesting images

\(^{18}\)F-FDG PET/CT detected a septic focus corresponding to a small periurethral abscess in a patient with bacteremia due to \textit{Enterococcus faecium}

\(^{18}\)F-FDG PET/TAC detectó un foco séptico debido a un pequeño absceso periuretral en un paciente con bacteriemia por \textit{Enterococcus faecium}

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A 70-year-old male patient hospitalized in our center presented systemic inflammatory response syndrome. Due to the high suspicion of a septicemia, the patient underwent blood cultures which demonstrated a bacteremia due to \textit{Enterococcus faecium}. The patient underwent antibiotic therapy but he presented clinical deterioration. Therefore a whole-body CT was performed searching for possible occult foci of infection but no significant findings were evident. Subsequently, the patient was addressed to our department to perform a \(^{18}\)F-FDG PET/CT searching for septic foci. Before \(^{18}\)F-FDG injection, the patient had fasted for at least 6 h; at the time of the radiopharmaceutical injection the glucose blood levels corresponded to 100 mg/dL. Images were acquired 1 h after i.v. injection of 270 MBq of \(^{18}\)F-FDG.

\(^{18}\)F-FDG PET/CT showed a focal area of increased radiopharmaceutical uptake in the root of penis, corresponding to the urethra (Fig. 1), with a maximum standardized uptake value (\(\text{SUV}_{\text{max}}\)) of 10. No other areas of abnormal \(^{18}\)F-FDG uptake were detected in the rest of the body. Based on this \(^{18}\)F-FDG PET/CT finding a possible septic focus in the periurethral region was postulated. Ultrasonography showed the presence of a small periurethral abscess which was subsequently drained. The abscess fluid culture was positive for \textit{E. faecium}. The antibiotic treatment was strengthened, blood culture became negative for \textit{E. faecium} and clinical improvement was obtained.

\textit{E. faecium} has become an important cause of nosocomial bacteremias. These infections are often difficult to treat owing to the resistance of \textit{E. faecium} to a large number of antibiotics.\(^1\) The identification of occult sources of infection is of paramount importance to improve the outcomes of patients with bacteremia including those due to \textit{E. faecium}. Recent articles demonstrated the possible role of \(^{18}\)F-FDG PET/CT in detecting septic foci in patients with sepsis of unknown origin showing promising results.\(^2,3\) In our case \(^{18}\)F-FDG PET/CT detected a septic focus corresponding to a small periurethral abscess in a patient with bacteremia due to \textit{E. faecium} changing the patient management.

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Figure 1. Maximum intensity projection $^{18}$F-FDG PET image (A), axial non-enhanced CT (B) and fused PET/CT image (C) showed an area of increased radiopharmaceutical uptake corresponding to a small periurethral abscess with a SUV<sub>max</sub> of 10.

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**Conflict of interest**

The authors declare that they have no conflicts of interest.

**References**