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Pneumo-renal sarcoidosis revealed by F-18 FDG PET/CT

Michel Lambert[1], Aurelie Hermoye[2] and Renaud Lhommel[2]

[1]Department of General Internal Medicine and [2]Department of Nuclear Medicine, Cliniques Universitaires Saint-Luc., Université Catholique de Louvain, Av. Hippocrate, 10, 1200 Brussels, Belgium

Correspondence and offprint requests to: Renaud Lhommel; E-mail: renaud.lhommel@uclouvain.be

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A 61-year-old non-smoking woman presented with low-grade fever of 1 year duration, which had remained undiagnosed after several first-line investigations. Intermittent non-productive cough and arthromyalgias were the only relevant complaints on history taking. Clinical examination was otherwise unremarkable. Laboratory findings only revealed increased C-reactive protein at 5 mg/dL. Of note, renal function tests, urinalysis and autoimmune serum tests (ANCA, FAN and anti-GBM antibodies) as well as serum and urinary calcium levels were all normal. Chest X-ray showed no hilar lymphadenopathy or significant parenchymal abnormality. F-18 fluorodeoxyglucose (FDG) PET/CT demonstrated intense tracer uptake not only in bilateral peripheral lung parenchyma (Figure 1—baseline, A1 and B1) but also in both kidneys (Figure 1—baseline, A2 and B2). Sarcoidosis was diagnosed by transbronchial lung biopsy with the presence of non-caseating epithelioid granuloma. Taking into account all these clinical elements, a kidney biopsy was deemed unethical. Three months after oral corticosteroid therapy (0.5 mg/kg/day methylprednisolone), a second F-18 FDG PET/CT showed a complete regression of both pathological lung (Figure 1—second scan, C3 and D3) and kidney foci, where only a physiological excretion of FDG was seen within the urinary tract (Figure 1—second scan, C4 and D4). [Note that the bilateral kidneys hypertrophy related to the disease (Figure 1—baseline, A2 and B2) also significantly decreased under treatment (Figure 1—second scan, C4 and D4)].

Renal manifestations of sarcoidosis are most commonly due to hypercalciuria (with or without hypercalcaemia) and granulomatous interstitial nephritis (GIN) [1]. Glomerular disease, urinary tract involvement by retroperitoneal lymph node, and renal masses, the so-called pseudotumoral renal sarcoid, are rarer events [2]. Patients presenting with GIN have most often clear evidence of diffuse active sarcoidosis, although some patients present with isolated elevation of plasma creatinine level, and no or only minimal extra-renal manifestations. We report here an unusual presentation in the form of a clinically and biologically silent renal involvement in a patient with biopsy-proven pulmonary sarcoidosis, which was only revealed by FDG PET/CT. As mentioned for various other non-thoracic manifestations of the disease, F-18 FDG PET/CT is a promising non-invasive tool in this disorder, not only to assess the presence of active unexpected organ involvement, but also to monitor the response to glucocorticoid therapy [3].

Conflict of interest statement. None declared.

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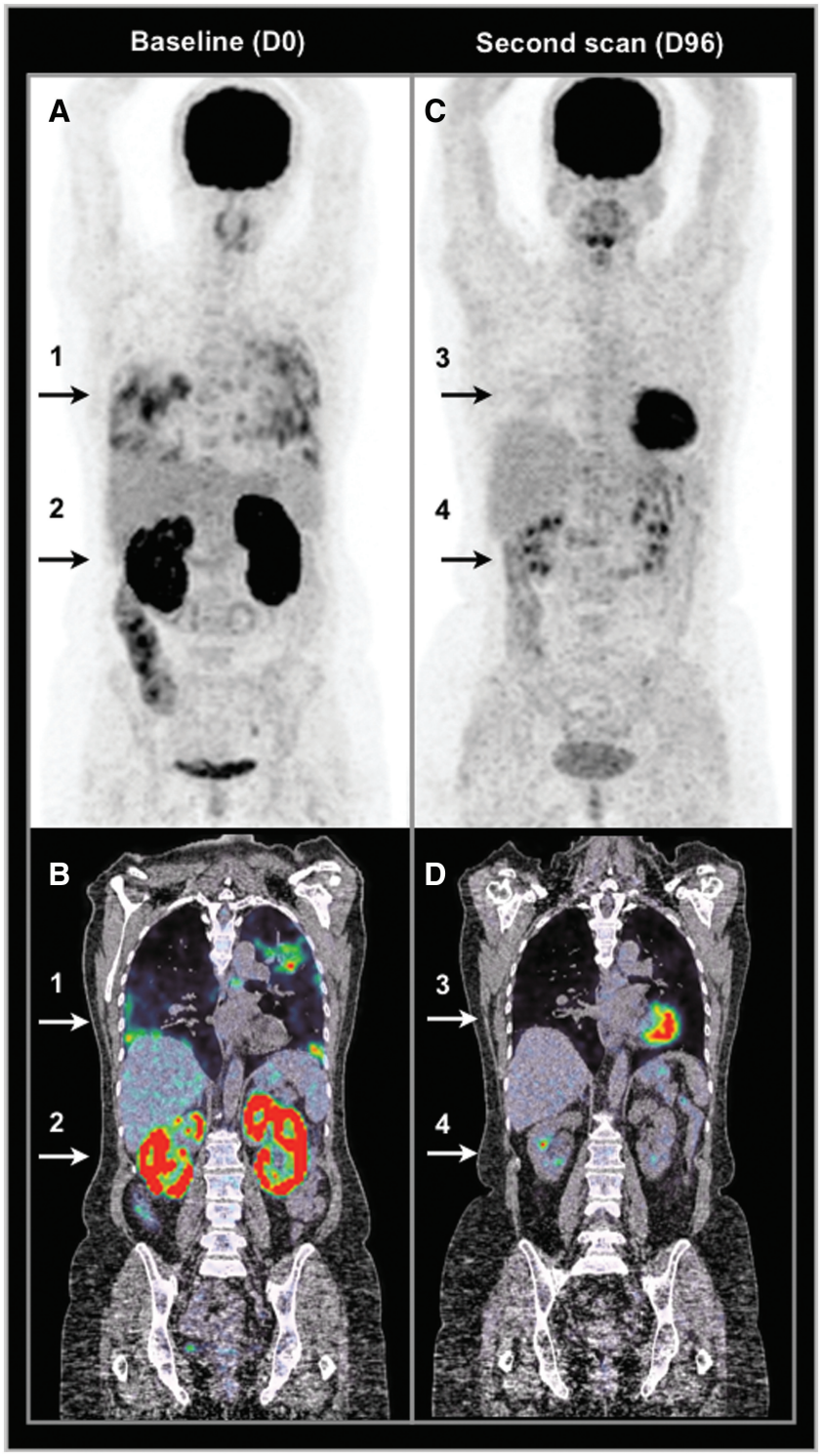

Fig. 1. Coronal slices of F-18 FDG PET (**A** and **C**) and fused PET/CT (**B** and **D**) tomography of a 61-year-old non-smoking woman presenting with low-grade fever of unknown origin. The figure compares two acquisitions performed respectively at Day 0 (baseline, A and B) and 96 days later, after the initiation of a glucocorticoid systemic therapy (second scan, C and D).