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Clinical Images

^{18}F FDG PET/CT identifies unsuspected bilateral adrenal histoplasmosis in an elderly immuno compromised patient

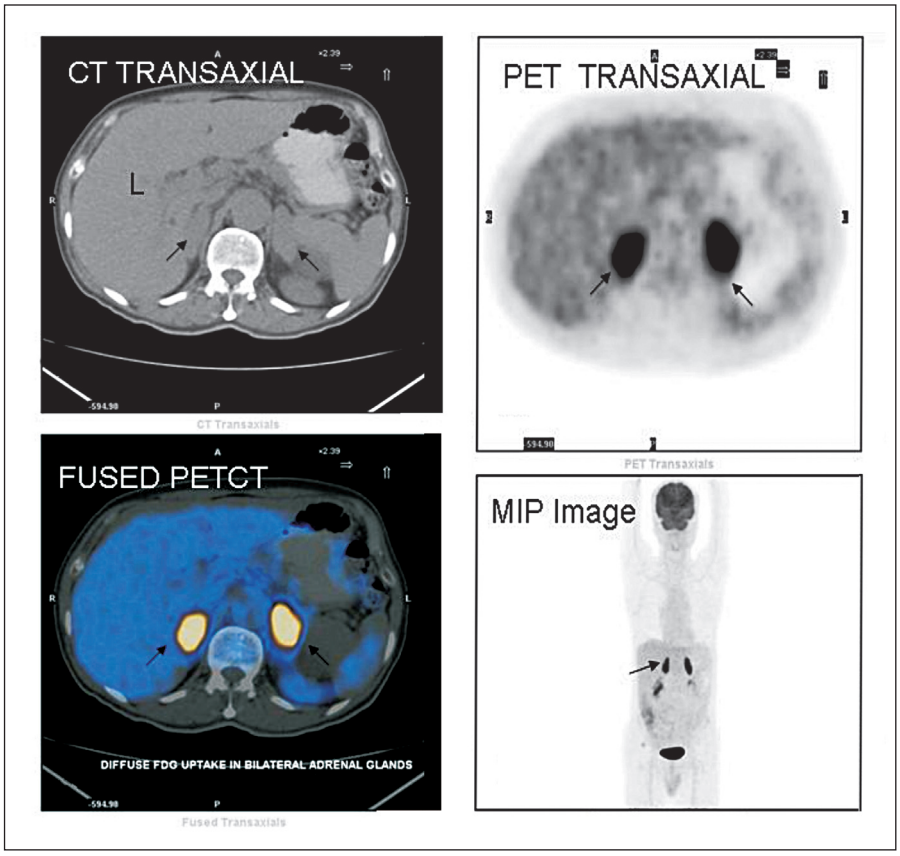

Fig. 1. Eight millicurie of ^{18}F FDG was injected in the patient in euglycaemic status and whole body PET/CT imaging commenced 60 m after the injection. **Fig. 1A** represents CT transaxial image, **Fig. 1B** depicts PET transaxial image, **Fig. 1C** shows Fused PET/CT image and **Fig. 1D** shows MIP (maximum intensity projection) image showing abnormal FDG uptake in bilateral adrenal glands with no other focus of abnormal FDG uptake elsewhere in rest of PET/CT survey. Arrows depict isolated FDG avid bilateral enlarged adrenal glands (right adrenal measures 4.4 × 1.8 cm while left adrenal measures about 4.5 × 2.4 cm). Metabolic activity was measured by a semiquantitative index known as Standard uptake value (SUV) Maximum and was found to be 14.3 g/ml in both adrenal glands. In Fig 1 A - L depicts liver.

A 80 year old diabetic male presented to the General Medicine department at Amrita Institute of Medical Sciences, Cochin, Kerala, India in January 2013 with complaints of severe weight loss. Despite extensive haematological tests, Mantoux test and chest X-ray, cause of weight loss was uncertain. A whole body ^{18}F FDG PET/CT (^{18}Fluorine labelled Flurodeoxyglucose Positron emission computed tomography/computed tomography, Fig. 1) was done to look for occult malignancy or infection. PET/CT images showed abnormal FDG uptake in bilateral adrenal glands. CT guided biopsy confirmed minimal active adrenal

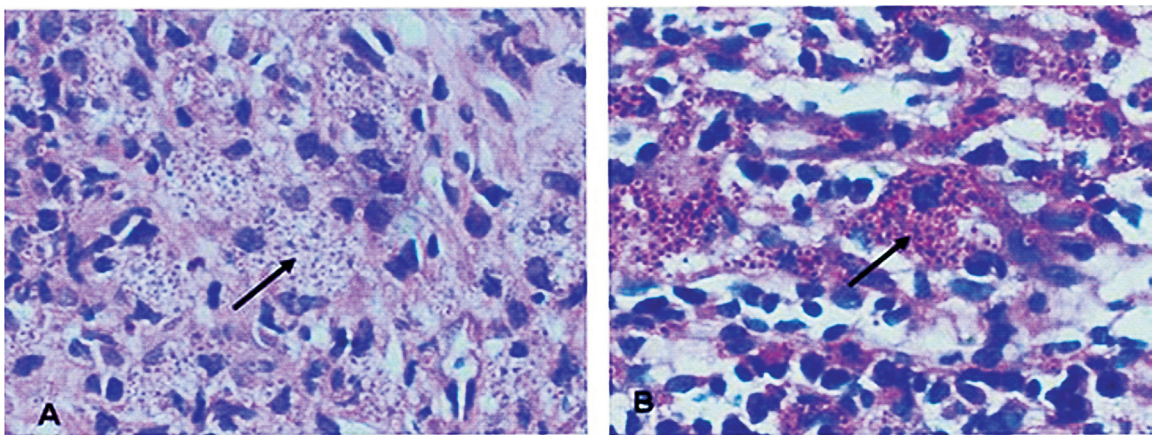

Fig. 2. Microscopic sections of adrenal glands show a tiny fragment of adrenal tissue with focal neutrophilic infiltration. No granuloma or histiocytes were noted. Mild vascular proliferation was seen. No atypical cells were noted. **(A)** Hematoxylin-eosin stain × 400 showing *Histoplasma* arranged in sheets, both inside the macrophages and extracellulary. **(B)** PAS stain (periodic acid Schiff stain) × 400: shows focal ovoid bodies with a clear halo which represents the fungal spores and organisms (arrow).

inflammation. Histopathologically special staining methods [PAS (Periodic acid-Schiff) and Geimsa stains] revealed fungal spores and organisms, thus confirming bilateral adrenal histoplasmosis as the underlying cause of weight loss (Fig. 2). Patient received itraconazole 200 mg twice daily oral doses and showed clinical improvement within 6 weeks of therapy.

Histoplasmosis, a fungal infection caused by *Histoplasma capsulatum* affects the reticulo-endothelial system[1]. Disseminated cases show involvement of liver, spleen, lymph nodes, marrow, and adrenal glands[1,2].

S. Padma[*] & Sreekala Sreehari[†]
Departments of Nuclear Medicine
& PET CT & [†]Pathology
Amrita Institute of Medical Sciences
Cochin 680 2041, India
[*]*For correspondence*:
padmas@aims.amrita.edu

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2. Kumar N, Singh S, Govil S. Adrenal histoplasmosis: clinical presentation and imaging features in nine cases. *Abdom Imaging* 2003; *28* : 703-8.