Pyrexia of unknown origin as clinical presentation of Renal Cell Carcinoma: Role of F18-FDG PET/CT.

Namra Asghar, Aamna Hassan
Department of Nuclear Medicine, Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, Pakistan.
Correspondence: Aamna Hassan. Email: aamnah@skm.org.pk

Abstract
The synergy of the anatomic-metabolic details provided by PET-CT plays a substantial role in the diagnostic workup of Pyrexia of Unknown Origin (PUO). Although several imaging modalities have been used in the detection of cause of PUO, PET-CT is the most sensitive and specific modality for detection of cause. RCC is a rare cause of PUO.

Keywords: Pyrexia of unknown origin, (18F)-fluorodeoxyglucose positron emission tomography-computed tomography, Renal Cell Carcinoma.

A 41 year old male underwent extensive diagnostic workup for pyrexia of unknown origin. His ESR was 130 in the first hour and CRP = 124 u/l. Ultrasound abdomen detected a left renal lesion. Triphasic CT gave differentials of bosnaik 2F haemorrhagic cyst vs solid renal tumour. Meanwhile PET/CT was done for investigating the cause of PUO. 396 MBq of (18F)-fluorodeoxyglucose was administered intravenously. Imaging was performed on an integrated 16-slice PET-CT scanner, with scanning of whole body. PET (a) and PET-CT fused (b) images demonstrated a large heterogeneously enhancing exophytic lesion involving mid-pole of left kidney, measuring 7.7 x 7.4cm. It displayed peripheral rim of intense metabolic activity with central photopenia [SUV 13.3]. These features strongly favoured a solid tumour with central necrosis over infective/haemorrhagic cyst. The patient underwent left radical nephrectomy and histopathology showed mixed renal cell carcinoma.

Discussion
Fever is amongst the atypical or paraneoplastic manifestations of Renal Cell Carcinoma (RCC), presenting in approximately 20% patients.

The incidence of RCC has increased over the past several decades mainly due to more liberal use of imaging modalities. RCC represents 3% of all adult tumours. The high sensitivity with relatively limited specificity for focal diseases on hybrid F18-FDG PET/CT, makes it an ideal diagnostic tool to guide towards more specific diagnostic examinations if applied early in the workup for PUO.

References