

Two urinomas after a renal allograft demonstrated by hybrid SPET-CT

To the Editor: Although in post-renal transplants multiple cases of single intra-abdominal urinomas have been reported [1-6] we would like to report two such collections in the same patient, one being subcutaneous, and discuss their differential diagnosis. A 28 years old male who received a renal allograft one month earlier for chronic renal failure, presented with decreasing urine output. Acute tubular necrosis was suspected and biopsy of the transplanted kidney was performed. Following this procedure, the patient developed a subcutaneous swelling. A diagnostic computerized tomography (CT) scan showed 2 fluid collections, one intra abdominally and the other in the subcutaneous tissue. However, the exact nature of the fluid collections was not known. Differential diagnosis between urinoma, lymphocele and seroma was considered. The patient underwent hybrid single photon emission tomography, SPET-CT fusion imaging, using technetium-99m ethylene dicysteine ($^{99m}\text{Tc-EC}$) (Fig. 1). Dynamic renal scintigraphy showed mild impaired perfusion and mild impaired renal cortical function. Renal pelvis was dilated. Slow clearance of the tracer was also noted. A lateral image demonstrated tracer collections in two sites, one anterior-inferior to the lower pole of the transplanted kidney and another in the subcutaneous tissue. Hybrid SPET-CT imaging showed the presence of tracer activity in both these collections, confirming the diagnosis of urinomas (Fig. 2). The fluid from the subcutaneous swelling was aspirated, examined biochemically and showed to be urine. The patient was operated. Intra operatively a rent in the renal pelvis was found and was surgically closed, following which the patient improved.

Even though the diagnosis of the subcutaneous urinoma could have been made using SPET-biopsy and biochemical evaluation, the intra-abdominal urinoma and the dimensions of both urinomas were found by using the SPET/CT. CT was also of help in differentiating the renal pelvis from one of the intra abdominal collections.

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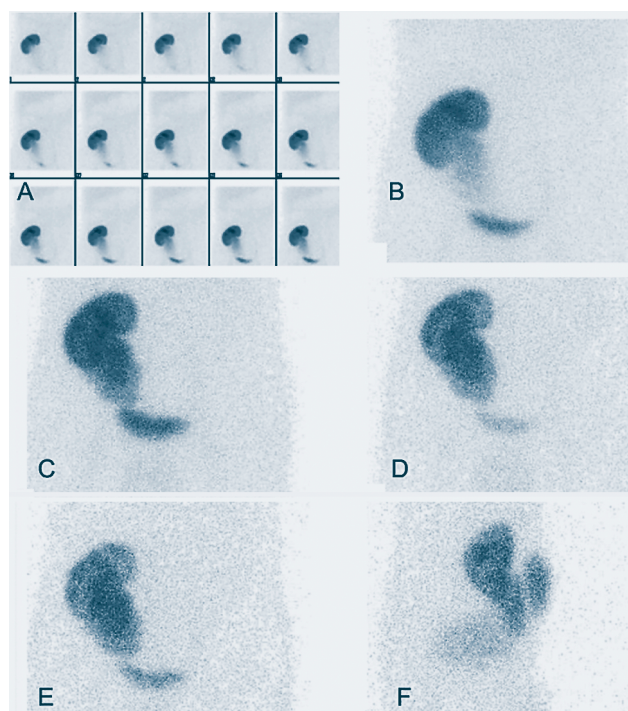


Figure 1. Renal scintigraphy performed with $^{99m}\text{Tc-EC}$. Dynamic anterior images (A) show mild hydronephrosis of the renal graft. The delayed anterior images (B-E) show a dilated pyelocalyceal system and collection of tracer in and around the dilated pelvis. The lateral image (F) shows a subcutaneous tracer collection anterior to the renal pelvis.

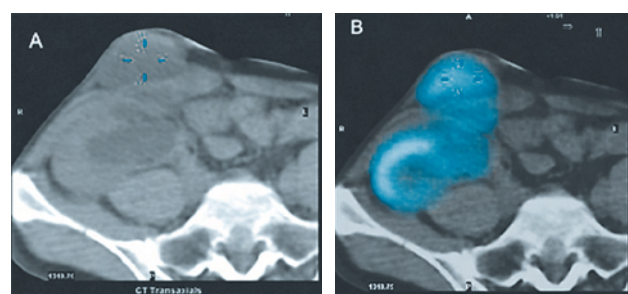


Figure 2. Trans-axial SPET CT images (A-CT image, B-SPET/CT fused image) show tracer activity both in the intra-abdominal and subcutaneous fluid collections confirming the diagnosis of urinomas.

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