



Post-Transplant Urinary Leak Secondary to Ischemia Reperfusion Injury

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Keywords

Kidney; Transplant; Ischemia reperfusion injury; Urinary leakage

Clinical Image

A 68 year old Caucasian man affected by chronic renal failure in treatment with peritoneal dialysis, was admitted for kidney transplantation from a deceased donor. During surgery, after vascular clamp removal, renal graft demonstrated a patchy aspect of vascular distribution with a severe reduction at the lower pole. Intraoperative Indocyanine Green (ICG) angiography confirmed a low fluorescence intensity value at that site (Figure 1). During the postoperative course renal function recovered early but glomerular filter rate never went further over 15 mL/min/1.73 m². Follow-up ultrasonographic examination always confirmed flow reduction of whole parenchyma and complete absence in the lower pole (Figure 2). Four months after transplantation a rapidly growing fluid collection at the perirenal site extended to subcutaneous tissue was detected (Figure 3).

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Figure 1: Intraoperative ICG angiography.

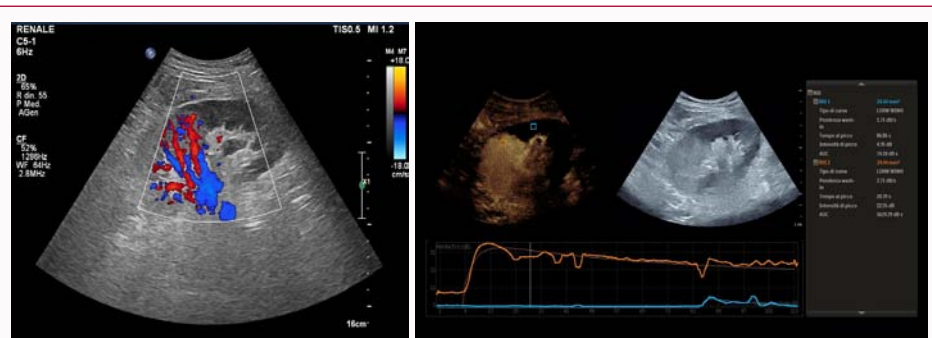


Figure 2: Postoperative follow-up echo-color-Doppler (A) and contrast enhanced ultrasonography (B).

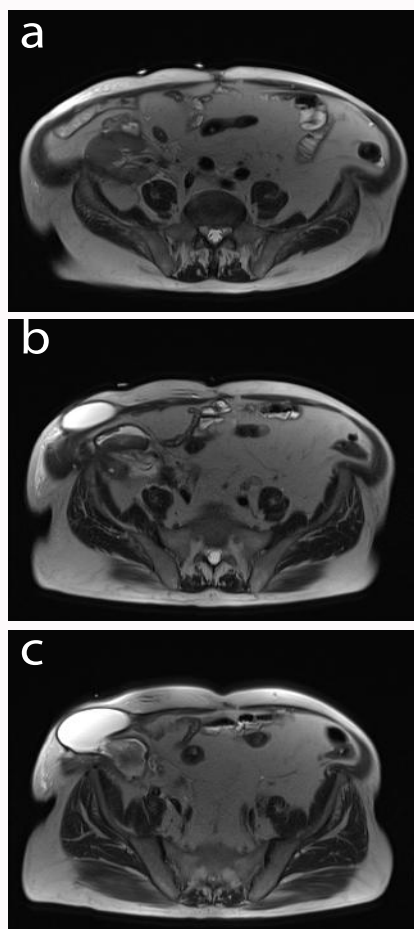


Figure 3: Magnetic resonance imaging: Multiple cranio-caudal sections.



Figure 4: Macroscopic examination of the explanted graft.

A percutaneous tube was placed and the fluid drained tested positive for urine. In consideration of the chronically ineffective renal function and the urine extravasation, graft explant was judged indicated and carried out. Morphological examination of the explanted kidney revealed a complete colliquative disruption of the lower pole and a clear communication with the urinary tract (Figure 4). Ischemia reperfusion injury may be responsible for post-transplant renal dysfunction and severe vascular impairment of the graft parenchyma may lead to urinary leakage, responsible for graft loss.