

Minimally Dilated Obstructive Nephropathy Initially Suspected as Pre-renal Azotemia in a Kidney Donor with Volume Depletion

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Although ultrasonography is regarded as a gold standard in the diagnosis of obstructive nephropathy, in the situation of minimal or no dilatation of the renal pelvis, ultrasonography cannot detect obstructive nephropathy in spite of severe acute renal failure. Here we report a case of minimally dilated obstructive nephropathy initially suspected as pre-renal azotemia in a kidney donor with volume depletion. A 54-year-old priest was admitted because of anuria and abdominal pain for 2 days. Ten years ago, he donated his right kidney to non-related recipient for transplantation. One month before admission, he abstained from all food except water and salt for 30 days on purpose of prayer. Fasting for 1 month made him to lose weight from 60 kg to 52 kg. On admission, he had clinical sign of volume depletion such as dehydrated tongue and decreased skin turgor. Plain X-ray was unremarkable and ultrasonography showed minimal dilatation of renal collecting system. Laboratory data confirmed severe renal failure, blood urea nitrogen 157.3 mg/dl, serum creatinine 16.5 mg/dl. We initially suspected pre-renal azotemia due to volume depletion as a cause of acute renal failure. So initial treatment was comprised of intravenous hydration and administration of furosemide. But diuresis did not occur. We considered that pre-renal azotemia progressed to acute tubular necrosis and we decided to start hemodialysis. On follow-up ultrasonography performed on the 5th hospital day, dilatation of the collecting system was slightly progressed and a small stone was found at ureter orifice under cystoscopy. Removal of stone initiated a dramatic diuresis with rapid return of renal function to normal by the 3rd day.