



Management Of Urolithiasis In Living Kidney Donors

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Abstract

Introduction: Calcium lithiasis is the most frequently diagnosed renal lithiasis and is associated with a high percentage of patients with metabolic disorders, such as hypercalciuria, hypocitraturia, and hyperoxaluria. Presence of Oxalate-calcium stone in living kidney donor before transplantation may be should make them unselected for kidney donation in some cases

Methods: We conducted this retrospective study to analyze our experience in management of urolithiasis or hyperoxaluria in living kidney donors.

Results: This report is about 3 females aged 49, 43 and 38 years old. All are proposed for kidney donation to their sister. All are not obese, without any medical history and without any pathological symptom such as nephretic colic. We noted no urinary lithiasis on radiographs. We performed a 24-hours urine test, and examined PH, calcium and oxalate. For the first patient, we note a family history of urinary lithiasis and initial nephropathy for the recipient was undetermined. In the 2 other cases, we noted on tomodensitometry renal arterial subcentimeter calculi in 2 cases. In case 3, we noted vitamin D deficiency related hyperparathyroidism. The urine analysis showed in case 1: PH at 5.7, hypercalciuria with Ca/creatinuria at 0.818 mmol/l and weddelite. In patient 2 we noted PH at 5.5, hyperoxaluria at 0.48 mmol/l and oxalate/creatinuria at 0.057. In patient 3 with calculi, we noted PH at 6.6, mild hyperoxaluria with oxalate/creatinuria at 0.035 (normal rate < 0.03). This patient underwent pre transplant extracorporeal shock, hyperdiuresis regimen with stone clearance. She donated a kidney for her sister. After a follow up of 16 months, there was no stone recurrence in donor or recipient. The other 2 patients were refused for kidney donation.

Conclusions: This report shows the efficacy of pre transplant extracorporeal shock in living donors with subcentimeter calculi permitting kidney donation after stone clearance. When there is a family history of stone, metabolic disease or donor lumbar pain, screening for hypercalciuria and hyperoxaluria should be performed. There is a controversial if the kidney stone formers can donate a kidney or not. Proper donor selection and follow up is crucial to success. Extracorporeal shock in living donors with subcentimeter calculi can be performed successfully permitting kidney donation after stone clearance. Some stone forming patients are clearly not candidates, such as those with hyperoxaluria, primary hyperoxaluria, or cystinuria or with renal parenchymal deposits.

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