

## Renal Failure from Vitamin C after Transplantation



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**A** 31-YEAR-OLD WOMAN WITH BILATERAL NEPHRECTOMY DUE TO BLEEDING angiomyolipomas from tuberous sclerosis received a kidney transplant with good early graft function. Irreversible, oliguric renal allograft failure soon developed from widespread deposition of calcium oxalate crystals, involving 30% of tubules (Panels A and B, hematoxylin and eosin). The patient had abundant oxalate deposits in the skin (resembling tophaceous gout but without hyperuricemia) (Panels C and D); polarizing microscopy confirmed the presence of oxalate in a specimen from these deposits (Panel E). She had a plasma oxalate level of  $62 \mu\text{mol}$  per liter (normal value,  $<2$ ) and a history of self-medication with vitamin C (2 g per day for 3 years while on dialysis). A diagnosis of secondary oxalosis was established. Excess ascorbate is normally excreted harmlessly in the urine, but in patients with renal failure, it is retained and converted to insoluble oxalate and can accumulate in multiple organs. High-dose vitamin C therapy should be avoided in patients with renal failure.

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