



Tacrolimus Nephrotoxicity After Renal Transplantation

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THIS study describes the clinical profile of tacrolimus (Tac) nephrotoxicity after renal transplantation. Tac was given initially as a 0.075 to 0.1 mg/kg/day IV continuous infusion and then orally at 0.15 mg/kg twice daily. Patients were selected based on a rising serum creatinine, normal ultrasound, and absence of rejection on biopsy, leading to a reduction in Tac dosage and fall in creatinine. Twenty-two (17%) cases of nephrotoxicity were identified among 128 kidney transplant biopsies. This compares with a 20.5% incidence reported by the Japanese FK506 study group.¹ The onset of nephrotoxicity occurred 1 to 156 weeks postoperatively. The mean baseline creatinine was 2.4 ± 1.9 mg/dL (range 1.0 to 9.9) and rose $40.6\% \pm 14.2\%$ (range 11 to 66) during episodes of nephrotoxicity. Mean peak plasma ($n = 10$) and whole blood ($n = 12$) Tac levels during the toxic episodes were, respectively, 2.7 ± 0.8 ng/mL (range 1.1 to 3.5) and 31.6 ± 10.6 ng/mL (range 14.5 to 50.5). The drug levels were considered to be beyond the therapeutic range in 18 of 22 (82%) patients. The highest Tac level preceded the rise in creatinine in 20 cases by 1.6 ± 1.8

days. A mean reduction in Tac dosage of $41\% \pm 21\%$ (range 11 to 89) led to a $86\% \pm 18\%$ (range 45 to 100) fall in serum creatinine in 1 to 14 days. Serum potassium higher than 5.0 mEq/L was recorded in 9 of 22 (41%) cases. More than three elevations in blood glucose greater than 140 mg/dL were recorded in 4 of 11 (36%) non-diabetic patients. Hand tremors were seen in two (9%) cases and elevated diastolic blood pressure higher than 90 mm Hg in seven (32%) patients.

REFERENCE

1. Ochiai T, Ishibashi M, Fukao K, et al: *Transplant Proc* 27:50, 1995

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