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## Tacrolimus Nephrotoxicity After Renal Transplantation

S.R. Katari, M. Magnone, R. Shapiro, M. Jordan, V. Scantlebury, C. Vivas, H.A. Gritsch, J. McCauley, T. Starzl, A.J. Demetris, and P.S. Randhawa

**T**HIS 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.<sup>1</sup> The onset of nephrotoxicity occurred 1 to 156 weeks postoperatively. The mean baseline creatinine was  $2.4 \pm 1.9$  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,  $2.7 \pm 0.8$  ng/mL (range 1.1 to 3.5) and  $31.6 \pm 10.6$  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  $1.6 \pm 1.8$

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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From the Departments of Surgery and Pathology, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania.

Address reprint requests to Dr Parmjeet Randhawa, Transplant Pathology, C903.1, Presbyterian University Hospital, 200 Lothrop Street, Pittsburgh, PA 15213.