

with diabetes induced by streptozotocin after uninephrectomy prevented albuminuria for a long period.

We also verified whether MMF prevents development of anti-glomerular basement membrane (GBM) antibody-induced glomerulonephritis. Experimental nephritis in WKY/NCrj (MHC haplotype; RT1<sup>l</sup>) rats was induced by an intraperitoneal injection of anti-GBM antibody (SR2). Then, the animals were given 20 mg/kg/day of oral MMF (treated group) or normal saline (control group) for 2 weeks. The results showed MMF significantly prevented urinary protein excretion (treated group vs. control group,  $9.4 \pm 4.3/\text{creatinine}$  vs.  $21.7 \pm 4.3/\text{creatinine}$ ). However, daily administration of MMF significantly reduced the hematocrit level ( $24.0 \pm 0.8\%$  vs.  $41.7 \pm 1.5\%$ ) and suppressed body weight gain ( $13.4 \pm 6.8\%$  vs.  $20.7 \pm 7.0\%$ ). We paid much attention to MMF dosage for different rat strains. Few adverse effects occurred when we administered 20 mg/kg/day of MMF to Lewis rats (haplotype; RT1<sup>l</sup>) in another experimental model. It was also reported that even when 80 mg/kg/day was orally administered to BN rats (RT1<sup>n</sup>), no adverse effects occurred [3]. Because MMF is a critical dose drug and markedly affected by sensibility, there may be differences in doses among experimental animals, such as 10 mg/kg/day [2] and 80 mg/kg/day [3].

We congratulate Utimura et al [2] for their new approach to diabetic nephropathy, but wish to know if any adverse effects such as anemia and clinical symptoms occurred.

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## Reply from the Authors

We wish to thank Dr. Takeda and his colleagues for their remarks. In the study in question, and in prior studies of the 5/6 renal ablation and the chronic nitric oxide inhibition models, we always administered mycophenolate mofetil (MMF) at 10 mg/kg/day. At this dose, diabetic rats ate normally, remained in good “clinical”

condition, grew at the same rate as untreated controls, and developed no anemia (hematocrit =  $42 \pm 1\%$  in diabetic treated vs.  $44 \pm 1\%$  in untreated at 8 months of observation,  $P > 0.1$ ). We avoided higher doses, which, in pilot studies, were systematically associated with anemia, stunted growth, and poor general condition. MMF has been associated with reversible anemia in transplant patients, suggesting that it may indeed depress the erythroid series [1]. We believe this is dose-dependent, and that MMF doses should be carefully titrated if this and other untoward effects are to be avoided. We are unaware of data on variable susceptibility among rat strains, although this is certainly possible.

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## Myocardial function in Bartter's and Gitelman's syndromes

**To the Editor:** Bettinelli et al [1] recently reported the interesting observation of prolonged QT interval in the electrocardiogram in Gitelman's syndrome and concluded with the suggestion of increased risk for these patients of developing dangerous ventricular arrhythmias.

Although on a general basis this possibility cannot be ruled out, we believe that prolonged QT interval does not represent a peculiar finding of the disease commonly caused by hypokalemia and hypomagnesemia, per se. Moreover, the level of corrected prolonged QT interval that identifies, in association with syncope, a high-risk patient for development of ventricular arrhythmias is longer than 500 ms, which was found in only 1 out of 27 patients included in the study. Finally, to the best of our knowledge, there is no report of sudden death in patients with Bartter's or Gitelman's syndrome. In our cohort of Bartter's patients, whose genetic characterization later allowed the diagnosis of affected by Bartter's or Gitelman's syndrome, however, we reported specific abnormalities of cardiac function, independent of hypokalemia, characterized by the inability to adequately recruit