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### Cyclosporine and liver regeneration

To the Editors:

The article about the effects of cyclosporine on liver regeneration (Mazzaferro et al. SURGERY 1990;107:533-9) is really interesting because it confirms once more the hepatotrophic characteristics of this drug, but now in a different animal.

We have previously reported<sup>1-4</sup> that cyclosporine induces liver regeneration in normal liver and enhances the regenerative response induced by 70% hepatectomy. We have also found that the depressive effect of warm liver ischemia on hepatocytic regeneration is partially reversed by cyclosporine.<sup>5</sup> Our later experiments have shown a similar hepatotrophic activity of cyclosporine on hepatocytes inoculated into the spleen, which undergo regeneration based solely on the stimulus of this drug (presented at the XXV Congress of the European Society for Surgical Research, Berlin 1990).

Dr. Mazzaferro suggests that these effects of cyclosporine "could be mediated in ways including immune modulation that are barely conceivable at the present time." In fact, we have postulated that the immune system plays a central role in hepatic-growth control<sup>1-5</sup> and that the splanchnic hepatotrophic factors may be substances needed for—but not inducing—liver regeneration. The relationship that exists between lymphocytes and liver regeneration supports our hypothesis.<sup>6-12</sup>

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