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## Pretransplant Xenogeneic Blood Transfusion Combined With FK 506 Prolongs Hamster-to-Rat Liver Xenograft Survival

B. Nardo, L.A. Valdivia, F. Pan, S. Celli, M. Tsugita, A.J. Demetris, J.J. Fung, and T.E. Starzl

IT IS KNOWN that donor-specific transfusion (DST) enhances graft survival in clinical transplantation. However, efforts using xenogeneic DST to improve xenograft survival have resulted in hyperacute rejection (HAR) even in the presence of conventional immunosuppression.<sup>1</sup> In this study, we tested the effect of DST combined with FK 506 on survival of hamster-to-rat liver xenografts. LVG hamsters were the donors and LEW rats the recipients of orthotopic liver transplants. DST in the form of 1 mL of hamster whole blood was given IV on day -7. FK 506 was given in a dose of 1 mg/kg per day from day -7 to day -1. Liver grafting was done on day 0. Liver xenograft survival is shown in Table 1.

DST alone induced high levels of antihamster antibodies on day 0, followed by HAR. Although the addition of FK 506 caused minimal suppression in this response, HAR was avoided. Hamster lymphocytes were detected on day 0 in the spleen of LEW rats treated with DST + FK 506, but not in the spleens of rats treated with DST alone.

In conclusion, the combination of DST plus FK 506 avoided the hyperacute rejection caused by DST alone and resulted in a trend to longer liver xenograft survival. The presence of chimerism at the time of transplantation may be an advantage for longer graft survival.

### REFERENCE

1. Valdivia LA, Monden M, Gotoh M, et al: *Transplantation* 52:594, 1991

From the Pittsburgh Transplant Institute, Department of Surgery, University of Pittsburgh Health Science Center, Pittsburgh, Pennsylvania.

Address reprint requests to Thomas E. Starzl, MD, PhD, Department of Surgery, 3601 Fifth Avenue, 5C Falk Clinic, University of Pittsburgh, Pittsburgh, PA 15213.

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Table 1. Survival of Liver Xenograft Recipients After DST Plus FK 506 Treatment

| Treatment                                      | n  | Graft Survival Days                       | MST         | P          |
|--|----|---|-------------|------------|
| 1. None  | 8  | 6, 7, 7, 7, 7, 7, 7, 8                    | 7.0 ± 0.5   |            |
| 2. DST   | 6  | 1, 1, 1, 2, 2, 3                          | 1.6 ± 0.8   | <.01 vs G1 |
| 3. FK 506 1 mg/kg per day<br>from -7 d to -1 d | 10 | 8, 11, 12, 14, 20, 24, 25, 42,<br>43, 63  | 26.2 ± 17.7 | <.01 vs G1 |
| 4. DST + FK 506                                | 10 | 12, 22, 22, 24, 25, 37, 49, 74,<br>74, 76 | 42.1 ± 25.8 | NS vs G3   |