Commentary

Murakawa and associates report a succinct and well-designed sequence of experiments that suggest that carefully controlled cryopreservation does not reduce the immunogenicity of human fibroblasts. They chose lung fibroblasts in tissue culture as a model of allograft fibroblasts and found that their spontaneous proliferation, marginal ability to stimulate allogeneic lymphocytes, and basal expression of class I human leukocyte antigens (HLA) and intracellular adhesion molecule-1 (ICAM-1) were all unaffected by cryopreservation. Furthermore, the up-regulation of these molecules and the induction of class II HLA on the fibroblast membrane by interferon-gamma (INF- γ) occurred to the same level in both freshly cultured and cryopreserved cells.

By implication, aortic valve fibroblasts that survive cryopreservation may play some part in the immune response mounted against the allograft by the recipient. However, fibroblasts, even after exposure to INF- γ , cannot initiate an anti-graft response as they lack the antigen-presenting capacity and particular co-stimulatory molecules that only dendritic cells pos-

sess. The authors' data suggest that INF- γ -primed fibroblasts could amplify the ongoing immune response by prolonging the activation of recipient T cells infiltrating the allograft. It must also be noted that the expression of class I and II HLA and ICAM-1 by activated fibroblasts exposes them to cytotoxicity by T cells with likely detrimental effects on allograft structure and function.

There is now evidence that fibroblasts, as well as endothelial cells, may play their part in the immunologic damage that aortic valve allografts are likely to sustain after implantation. However, as lung fibroblasts may differ in their phenotype from those in vascular tissue, the authors should be encouraged to extend their studies to human aortic valve fibroblasts. In the meantime, several groups continue to probe the interstitium of aortic valves looking for dendritic cells with potent alloantigen-presenting capacity.

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