Comparison of Cryopreserved Homografts and Decellularized Porcine Heterografts Implanted in Sheep


Abstract
This study evaluated cryopreserved homografts (Group 1) and porcine heterografts decellularized with deoxicholic acid (Group 2), implanted in the right ventricular outflow tract of juvenile sheep. Two groups with four animals in each were used and all animals survived with good outcome. Animals were sacrificed 90 or more days after surgery (90-150 days). On the third and fifth postoperative months they were submitted to echocardiographic examination with normal function and appearance observed for both groups. Explants were evaluated through histological analysis, atomic spectrophotometry and radiological examination. Calcium content was higher in the cusps of cryopreserved homografts, despite an otherwise similar macroscopic appearance between grafts of both groups. Decellularized heterografts were progressively repopulated by autologous cells suggesting some regenerative ability and longer durability than conventional homografts.

Artifical Organs 2004; 28(4):366