Fibrin sealant of the cut surface of partial liver grafts from living donors.

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Abstract:

Complete hemostasis and proof against bile leakage on the cut surface of the partial liver graft and the remnant liver of the donor are basic desiderata for a successful outcome in living related liver transplantation (LRLT). This study evaluated the efficacy of fibrin glue sealant on the cut surface of a graft in human living related liver transplantation and canine partial liver transplantation in terms of postoperative complications. From June 1990 to August 1993, a series of 70 LRLTs were performed on children with end-stage liver disease. In harvesting the graft from living donor, hepatic parenchyma was transected by ultrasonic aspirator. Clearly exposed vessels were either ligated or suture ligated. Fibrous connecting tissues of the glissonian branches and tiny vessels were coagulated by a newly devised bipolar electric cautery equipped with saline dripping system. Fibrin sealant was sprayed on the cut surface of the liver graft and the remnant liver of the donor. All donors were discharged from hospital at 10 to 17 (mean = 11.6) days after surgery without arty complications that required surgical intervention, and were able to return to normal life. At reperfusion of the graft in the recipients, no blood loss from the cut surface was observed. However bile oozing on the cut surface was observed in 3 of the 70 cases. No infection or foreign body reactions were observed in the fibrin-sealed cut surface of the graft. Actuarial recipient survival rate was 89% (48/54) in elective cases and 69% (11/16) in emergency cases. In canine transplantation, 16 out of 23 beagles survived for 4 days or longer (longest 20 days). No bleeding from the cut surface was observed at revascularization of the partial liver graft. Upon autopsy after expiration, no definite infection on the cut surface was found. The results indicate that fibrin sealant is effective for

hemostasis and biliary proof on both the cut surface of the partial liver graft and the remnant liver of the living donor.