

Prevention of bleeding after islet transplantation: Lessons learned from a multivariate analysis of 132 cases at a single institution.

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Abstract:

Islet transplantation is being offered increasingly for selected patients with unstable type 1 diabetes. Percutaneous transhepatic portal access avoids a need for surgery, but is associated with potential risk of bleeding. Between 1999 and 2005, we performed 132 percutaneous transhepatic islet transplants in 67 patients. We encountered bleeding in 18/132 cases (13.6%). In univariate analysis, the risk of bleeding in the absence of effective track ablation was associated with an increasing number of procedures (2nd and 3rd procedures with an odds ratio (OR) of 9.5 and 20.9, respectively), platelets count <150 000 (OR 4.4), elevated portal pressure (OR 1.1 per mm Hg rise), heparin dose ≥ 45 U/kg (OR 9.8) and pre-transplant aspirin (81 mg per day) (OR 2.6, $p = 0.05$). A multivariate analysis further confirmed the cumulative transplant procedure number ($p < 0.001$) and heparin dose ≥ 45 U/kg ($p = 0.02$) as independent risk factors for bleeding. Effective mechanical sealing of the intrahepatic portal catheter tract with thrombostatic coils and tissue fibrin glue completely prevented bleeding in all subsequent procedures ($n = 26$, $p = 0.02$). We conclude that bleeding after percutaneous islet implantation is an avoidable complication provided the intraparenchymal liver tract is sealed effectively. Copyright © Blackwell Munksgaard 2005.