

Allograft Inflow - Concern in Liver Transplantation after Intraoperative Radiotherapy for Cholangiocarcinoma

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Abstract

Patients who underwent local radiotherapy during surgical resection for cholangiocarcinoma are at increased risk of developing extensive thrombosis of splanchnic vessels and secondary biliary cirrhosis on the remnant liver; hence they become liver transplantation candidates. In these recipients, adequate graft inflow cannot be provided by conventional liver transplantation procedures. Cavoportal hemitransposition and renoportal anastomosis alongside complex arterial reconstructions are innovative techniques to restore allograft inflow in such cases. We report two cases of hilar cholangiocarcinoma formerly treated by left hepatectomy-Whipple en Bloc and intraoperative radiotherapy that developed late secondary biliary cirrhosis requiring liver transplantation. During transplant procedure, concern has been raised by the previous radiation-induced peritoneal injury with extended splanchnic thrombosis. Cavoportal hemitransposition and renoportal anastomosis were performed respectively, beside arterial graft reconstructions. Patients survived 57 and 18 days respectively, after transplantation. Cavoportal hemitransposition and renoportal anastomosis likewise complex arterial reconstructions are life-saving procedures to secure allograft inflow in the setting of radiation-induced extensive splanchnic thrombosis. However, this condition adversely affects patient and graft survival owing to high rates of early vascular and biliary complications, so these patients are not good liver transplantation candidates.

Abbreviations: CCA - cholangiocarcinoma, CPHT - cavoportal hemitransposition, Ct - celiac trunk, DSVT - diffuse splanchnic vein thrombosis, HA - hepatic artery, IVC - inferior vena cava, LRV - left renal vein, LT - liver transplantation, PV - portal vein, PVT - portal vein thrombosis, RISC - radiation induced sclerosing cholangitis, RISC-BC - radiation induced sclerosing with biliary cirrhosis, RPA - renoportal anastomosis

Key words: cholangiocarcinoma, cavoportal hemitransposition, renoportal anastomosis, liver transplantation, extensive splanchnic thrombosis

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