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Third retransplantation using a whole liver graft for late graft failure from hepatic vein stent stenosis in a pediatric patient who underwent split liver retransplantation

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Introduction: We present a case of third retransplantation using a whole liver graft in a 13-year-old girl who suffered graft failure and hepatopulmonary syndrome following split liver retransplantation with endovascular stenting of the hepatic and portal veins as an infant.

Methods: She was diagnosed with biliary atresia-polysplenia syndrome, and thus underwent living donor liver transplantation from her mother at 9 months of age.

Results: The first liver graft failed due to stenosis of the portal vein. She underwent the second liver transplantation with a split left lateral section graft. Endovascular stenting was performed to the portal vein stenosis 2 months and hepatic vein stenosis 9 months after transplantation. During the next 9 years, 11 sessions of balloon angioplasty for hepatic vein stent stenosis were performed. Ten years after the second transplantation, she underwent third transplantation using a whole liver graft recovered from a 12-year-old-girl. The double inferior vena cava technique was used for outflow vein reconstruction. The graft portal vein was anastomosed with the stent-containing portal vein stump because it was not possible to remove the stent and the inner diameter of the portal vein stent was large enough. An aorto-hepatic jump graft was used for arterial reconstruction. The patient recovered slowly and is doing well for 6 months posttransplant.

Conclusions: In conclusion, because stenting of the hepatic vein or portal vein can induce graft failure leading to late retransplantation, we emphasize secure vascular reconstruction to prevent endovascular stenting during LT in infants.

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