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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

Jung-Man NAMGOONG¹, Shin HWANG^{*1}, Young-In YOON¹, Yong-Pil CHO¹, Woo-Hyoung KANG¹,
Yong Jae KWON¹, Hyunhee KWON¹, Sang Hoon KIM¹, Kyung Mo KIM², Seak Hee OH²

¹Department of Surgery, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

²Department of Pediatrics, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

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 liver transplantation in infants.

Corresponding Author: Shin HWANG (shwang@amc.seoul.kr)

Presenter: Shin HWANG (shwang@amc.seoul.kr)

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