Treatment of Hepatic Venous Outflow Obstruction after Transplantation with Percutaneous Thrombosuction

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Abstract

Introduction
Hepatic venous outflow obstruction (HVOO) after liver transplantation (L.T) causes significant risk and even graft or patient loss. Venoplasty, balloon, stent, reoperation or retransplantation were usually used. We tried percutaneous catheter-guided thrombosuction under local anesthesia to treat HVOO successfully.

Methods and procedures of thrombosuction
First, heparin 5000U intravenously, then wiring to vein branch with 0.014” HydroST wire (COOK, USA) via femoral vein, then thrombus was given extracted repeatedly by thrombosuction (using 7-Fr Pronto V4).

Results
Case 1. A 54-year-old woman with HBV related liver cirrhosis and HCC received living donor liver transplantation (LDLT) with right lobe donated by daughter. During LDLT, a ringed polytetrafluoroethylene graft as a conduit to reconstruct V5, V8, right inferior hepatic vein and right hepatic vein was performed. Abnormal liver function occurred since 7th day. CT scan showed thrombosis of the orifices of both V5 and V8 onto the conduit, with hypoenhancement of the corresponding liver parenchyma. Percutaneous catheter thrombosuction to extract the conduit vein thrombus was performed. After thrombosuction, follow-up balloon catheter angiography showed a good flow from V5 to IVC. The liver function improved soon in 2 days. She was well for 14 months till now.

Case 2. Another 55-year-old woman received LDLT due to HCV related cirrhosis. One month after L.T, CT showed thrombosis of venous graft with pleural effusion and massive ascities. Thrombosuction was done successfully. She recovered and was well for 7 months till now.

Discussion and Conclusion
Thrombosuction had been used to treat thrombosis of coronary vessels, lower limbs, hemodialysis fistula, cerebral sinus or pulmonary embolism. However, we used thrombosuction to treat HVOO after L.T. It avoids general anesthesia, retransplantation and the potential risks of stent including malposition, migration or reocclusion.

Percutaneous catheter thrombosuction to treat early thrombosis after L.T is effective, simple, repeatable, and less invasive.