

## **Liver IV**

### **Liver transplantation in patients with portal vein thrombosis: A strategic road map throughout management**

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**BACKGROUND:** Liver transplantation (LT) in patients with portal vein (PV) thrombosis (PVT) is a complicated issue that occasionally necessitates extraordinary procedures for PV flow restoration. I will introduce our surgical algorithm for PVT in LT, especially for Yerdel classification Grade 3-4.

**METHODS:** Our algorithm trichotomized the management plan into 3 pathways based on PVT grade. The surgical procedures implemented included thrombectomy, interposition vein grafts, jump grafts from the superior mesenteric vein (SMV), jump grafts from a collateral and renoportal anastomosis.

**RESULTS:** If the PVT extends beyond the confluence of the splenic vein, preoperative evaluation and careful planning are necessary. SMV should be the first choice for reconstruction. However, if the SMV is too fragile and there are collateral blood vessels from the portal system to systemic circulation such as splenorenal shunt, the left renal vein portal or the left gastric vein, these can be selected for PV reconstruction. As a last resort, cavoportal anastomosis may also be an option in an extremely limited case. If there is no SMV branch that can be anastomosed and there is no collateral from PV circulation to systemic blood flow, we consider such cases to be unfeasible for LT. In any cases, to ensure adequate PV flow and to prevent portal hypoperfusion, the collateral pathways should be blocked with measuring PV pressure (PVP). In our retrospective study,  $PVP \geq 15$  mmHg at the end of surgery was associated with a significantly worse prognosis, so we controlled  $PVP < 15$  mmHg by splenic artery ligation, modulating collateral flow by banding, or splenectomy.

**CONCLUSION:** A stepwise broad-minded strategy should always be adopted when approaching advanced PVT during liver transplantation. An industrious preoperative evaluation should always be carried out to locate the ideal reliable source for PV flow restoration.