



Impact of preoperative portal vein thrombosis on liver transplantation

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Portal vein thrombosis (PVT) is one of the common complications of in cirrhotic patients (1). The frequency in candidates for liver transplantation will be higher. Patients listed on the liver transplantation, therefore, will undergo screening for PVT. PVT has now not to thought to be a contraindication for liver transplantation since 1990 (2). Due to progress in diagnostic tools and surgical techniques, most patients with PVT may undergo deceased-donor liver transplantation successfully (3). The patients with PVT, which is confined to the trunk of the portal vein (Yerdel's grades I and II), are comparable with the patients without PVT in surgical outcome. Dissection of the thrombosis from the main portal trunk to the confluence of splenic vein and superior mesenteric vein is necessary. The complete dissection and removal of the thrombosis is often difficult. It is necessary to obtain a satisfactory portal flow. Ultrasound guided dissection may be useful for decreasing the risk of portal vein injury (4). In cases with more extensive PVT (Yerdel's grade III), jump grafts to the superior mesenteric vein or to the major collateral veins had provided satisfactory survival after liver transplantation. A vein graft is anastomosed to the superior mesenteric vein, which was guided to the donor portal vein through meso-colon and pancreas head. A study by Karvellas *et al.* (5) compared two groups (one with PVT and the other without PVT) and found that there was no significant difference between the groups in surgical outcome.

Probably the most important findings in the present

study included the prognostic factors among the patients with preoperative PVT who underwent liver transplantation. They showed that the poor outcomes and high mortality rates in the patients who had complete thrombosis [Yerdel's grade IV (6)] preoperatively and more less advanced PVT (PVT limited in the intrahepatic or that re-canalized) was not related with postoperative mortality. The concerns in transplanting patients with PVT included the postoperative thrombosis, which was more common in non-survivor after liver transplantation (5) although postoperative use of antithrombotic therapy was not related with the prognosis. Evaluation on portal flow in closer interval is recommended in the transplanting patients with preoperative PVT.

In summary, Karvellas *et al.* (5) have provided an information of use on the satisfactory outcome of the patients who had preoperative portal vein thrombosis and underwent liver transplantation. Based on their findings, preoperative Yerdel's grade IV PVT was one of the prognostic factors, suggesting such cases should be considered a relative contraindication for liver transplantation. The present study revealed that post-transplant PVT, which may be related with incomplete removal of thrombosis and unsatisfactory portal flow, was associated with mortality. Because PVT in liver transplantation setting is now common, more detailed recommendations on the indication are necessary from the other transplant centers.

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