Background: Advanced hepatic tumors with involvement of hepatic veins are considered for extended major hepatic resection that increases the risk of post hepatectomy liver failure. Hepatic vein reconstruction can be applied for tissue preserving liver resection.

Methods: Sixteen patients who underwent hepatic resection requiring hepatic vein reconstruction from 2009-2017 were reviewed. The mean age was 55.7 years (range 42-67). All patients with advanced hepatic tumors were with compromised hepatic function due to liver cirrhosis, fibrosis or severe steatosis. For reconstruction of hepatic vein, Gortex prothesiss, gonadal vein and inferior mesenteric vein were used. One patient was requiring cold perfusion of the liver for vein reconstruction.

Results: All patients had R0 radical resection. There was no mortality. One patient had severe hepatic failure and managed conservatively. Thrombosis of reconstructed hepatic vein was observed in one patient on 9th day post operation. Reconstruction of hepatic vein allowed preserve of 10-50% of liver parenchyma.

Conclusion: Reconstruction of hepatic veins allows to safely perform radical parenchyma-preserving liver resection in patients with compromised liver function due to liver cirrhosis, fibrosis or steatosis.