

P046

The impact of extra-anatomical hepatic artery reconstruction during living donor liver transplantation on biliary complications and graft and patient survival

Jinsoo RHU, Jong Man KIM*, Gyu Seong CHOI, Jae-Won JOH

Department of surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Korea

Introduction : This study was designed to analyze the feasibility of extra-anatomical hepatic artery reconstruction in living donor liver transplantation.

Methods : Patients who underwent their first living donor liver transplantation at our center between January 2008 and December 2017 were reviewed. Hepatic artery reconstruction was classified as anatomical or extra-anatomical reconstruction. We compared the background characteristics and post-transplantation outcomes, including complications, biliary complications, graft survival, and overall survival. The potential risk factors for bile leakage was analyzed using multivariable logistic regression while risk factor for biliary stricture-free, graft, and overall survival were analyzed using multivariable Cox regression.

Results : Among 800 patients, 35 (4.4%) underwent extra-anatomical reconstruction while seven patients (7/35, 20.0%) experienced hepatic artery complications after the initial anatomical reconstruction and required extra-anatomical reconstruction during reoperation. Patients who underwent extra-anatomical reconstruction (n=2/35, 5.7%) had a similar rate of hepatic artery complications compared to those who underwent anatomical reconstruction (n=46/772, 5.9%, P=0.699). Extra-anatomical reconstruction was a significant risk factor of bile leakage (OR=4.167, CI 1.928-9.006, P<0.001) along with multiple bile ducts (OR=1.606, CI=1.022-2.526, P=0.040), and hepaticojejunostomy. (OR=4.108, CI=2.190-7.707, P<0.001) However, extra-anatomical reconstruction had no statistical relationship to biliary stricture-free survival (HR=1.602, CI=0.982-2.613, P=0.059), graft survival (HR=1.745, CI=0.741-4.109, P=0.203), or overall survival (HR=1.405, CI=0.786-2.513, P=0.251). Hepatic artery complications were associated with poor biliary stricture-free survival (HR=2.060, CI=1.329-3.193, P=0.001), graft survival (HR=5.549, CI=2.883-10.681, P<0.001), and overall survival (HR=1.958, CI=1.195-3.206, P=0.008).

Conclusions : Extra-anatomical hepatic artery reconstruction during living donor liver transplantation was not a risk factor of biliary stricture, graft failure, or overall survival.

Corresponding Author. : **Jong Man KIM** (yjongman21@gmail.com)