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The impact of the multiple bile ducts on postoperative biliary complications in patient underwent living donor liver transplantation

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Background : The multiple bile ducts in a living donor graft are a long standing troublesome. However, there have been many mixed reviews about the impact of multiple bile ducts on biliary complications. This study aimed to investigate correlations between the number of bile duct and biliary complications in patients undergoing living donor liver transplantation (LDLT).

Methods : We reviewed all LDLT patients in our hospital between July 2008 and December 2020. The patients were divided into 2 groups according to the number of bile duct in living donor graft (single duct=SD, multiple duct=MD). Biliary complications were defined by endoscopic, interventional or surgical treatment. Collected data included demographics of donor and recipient, surgical data about to biliary anastomosis (duct-to-duct, hepaticojejunostomy, and conjoined), perioperative and postoperative outcomes.

Results : All 70 patients were represented SD (n=48) and MD (n=22). Biliary complications occurred in 27 (38.6%) patient and were more common in MD group (54.5% vs 31.3%, Odds ratio 2.4). MD patients revealed longer operation time (1052 ± 251 vs 910 ± 215 minutes, $p=0.019$) and higher percentage of hepaticojejunostomy (31.8% vs 8.3%, $p=0.012$). Donor age, graft-recipient weight ratio, cold ischemic time and amount of transfusion were not different between the two groups. Twenty-one patients (77.7%) were fully recovered from biliary complications but three patients (4.3%) resulted in graft failure.

Conclusions : Biliary complications were common problems in LDLT despite overall good result. Multiple bile ducts can be a potent risk factor of biliary complications among other predisposing factors.

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