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Donor Safety And Risk Factors Of Pure Laparoscopic Living Donor Right Hepatectomy: A Korean Multicenter Study

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Background : The aim was to identify safety and risk factors of living donor after pure laparoscopic donor right hepatectomy (PLRDH) in a Korean multicenter cohort study.

Methods : This retrospective study included 543 patients undergoing PLRDH between 2010 and 2018 in five Korean transplantation centers. Rate of complication was assessed and multivariate logistic regression analyses were performed to identify risk factors of open conversion, overall complications, major complications, and biliary complications.

Results : Regarding open conversion, the incidence was 1.7% and the risk factor was body mass index (BMI) >30 kg/m² (P=0.001, odds ratio [OR] 22.72, 95% confidence interval [CI] 3.56–146.39). Overall, major (Clavien-Dindo classification III-IV), and biliary complication rate were 9.2%, 4.4%, and 3.5%, respectively. For overall complication, risk factors were graft weight >700 g (P=0.007, OR 2.66, 95% CI 1.31–5.41), estimated blood loss (P<0.001, OR 4.84, 95% CI 2.50–9.38), and operation time >400 minutes (P=0.01, OR 2.46, 95% CI 1.25–4.88). For major complication, risk factors were graft weight >700 g (P=0.002, OR 4.01, 95% CI 1.67–9.62) and operation time >400 minutes (P=0.003, OR 3.84, 95% CI 1.60–9.21). For biliary complications, risk factors were graft weight >700 g (P=0.01, OR 4.34, 95% CI 1.40–13.45) and operation time >400 minutes (P=0.01, OR 4.16, 95% CI 1.34–12.88).

Conclusions : Careful donor selection for PLRDH considering BMI, graft weight, estimated blood loss, and operation time combined with skilled procedure can improve donor safety.

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