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Is Indocyanine Green Clearance Test necessary to avoid post hepatectomy liver failure in major hepatectomy more than right hepatectomy?

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Purpose:

Surgical resection is the mainstay of curative treatment for most primary and secondary liver tumors. The morbidity and mortality rates in modern series are lower than 30% and 3% respectively. Preoperatively evaluating reserved liver function is critical in preventing posthepatectomy liver failure (PHLF) in patients undergoing liver resection. The commonly used indocyanine green (ICG) clearance test has several drawbacks. Patients would benefit from a more reliable and straightforward means of assessing the risk of PHLF.

Methods:

This study included 74 patients with various liver disease who underwent major liver resection more than right hepatectomy from Sep. 2013 to Aug 2017. We use platelet count > 70,000, anticipated remnant volume >30%, Prothrombin time(INR) <1.5, total bilirubin <1.5 and no major collateral vessels and splenomegaly in CT scan without ICG test as preoperative evaluating item for major hepatectomy.

Results:

There were 27 (36.5%) HCC, 21(28.4%) hilar cholangiocarcinoma, 8(10.8%) gallbladder cancer, 12 (16.3%) other diseases. 46(66.2%) Right hepatectomy, 20(27%)Right hepatectomy with bile duct resection(BDR), 5(6.8%)Right trisectionectomy with BDR, 3(4.1%)Right hepatectomy with pancreaticoduodenectomy were performed in this study. PHLF (grade B and C) was identified in 5 of 74 (6.8%). The mortality due to PHLF was in 2 of 74 (2.7%).

Conclusion:

Although our case is not enough, the results are comparable to those in other studies. Therefore, we can safely perform major liver resection using general preoperative evaluating item without ICG test.