VP 4

Segmentectomy 5 And Hepaticojejunostomy For Strasberg Type E5 Bile Duct Injury During Laparoscopic Cholecystectomy

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Background : The authors experienced a case of Strasberg type E3 (Injury at the confluence; confluence intact) + E5 (Injury to aberrant right hepatic duct) injury that was treated by segmentectomy 5 and hepaticojejunostomy and report here with an operative video.

Methods : A 36 years old female patient was referred to UUH due to jaundice after laparoscopic cholecystectomy (LC). She underwent LC 9 days ago at other hospital and suffered from jaundice and AST/ALT elevation from the day after LC. Serum bilirubin level rose to 7.7 mg/dl on day 7. She was transferred to another hospital. MRCP revealed complete disconnection of extrahepatic bile duct at the hilar level. Communication between the right and left ducts was preserved only at the roof of the bifurcation. There was no common hepatic duct stump. PTBD was tried. But only the bile duct of one segment of right liver where no communication exist with other segments was puncture and drained. Trial to puncture the left bile duct was failed. She was transferred to UUH and 2nd PTBD was inserted into the left liver on the day. On cone-beam CT, the isolated bile duct was identified as B5. This was a case of Strasberg type E3+E5 injury where complete transection of the confluence happened with concomitant separate transection of the aberrant B5. Since early (within 6 weeks) bile duct repair is reported to be associated with increased rates of repair failure, postoperative complications, and biliary stricture, delayed repair was decided.

Results : After waiting 7 weeks after the LC, she underwent open segmentectomy 5 and hepaticojejunostomy. The mucosa of the B5 (the separated duct) was destroyed so deeply (by 2 large metal clips) that a safe mucosa-to-mucosa anastomosis to the jejunum was impossible. Segmentectomy 5 was performed by Glissonean approach guided by the first PTBD. The aberrant B5, P5 and A5 were separately closed. After removing all the scar tissues surrounding the previous clipped site on common hepatic duct, hepaticojejunostomy was done with some extension (3mm) of the left hepatic duct. Operation time was 375 minutes. Estimated blood loss was 100ml. There was no postoperative complication. Postoperative hospital stay was 11 days.

Conclusions : For injury of an aberrant right duct with concomitant injury of main bile duct, delayed repair after more than 6 weeks of the injury seems offer a good chance of sound repair if on-table repair was not possible. When the injured aberrant right segmental duct is not repairable, Glissonean approach guided by the PTBD make precision segmentectomy possible.

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