

Bile leakage associated with biliary reconstruction in living donor liver transplantation and the possible role of fibrin glue.

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Publication Date: 2011

Abstract:

Objective: The use of microsurgical biliary reconstruction has been proven superior to conventional biliary reconstruction. However, bile leaks do happen in a few cases. Our aim is to describe our experiences in dealing with bile leak after microsurgical biliary reconstruction and to explore the role of fibrin glue to minimize bile leak. **Patients and Methods:** From March 2006 to Dec. 2009, a total of 271 LDLT were performed in Chang Gung Memorial Hospital, Kaohsiung Medical Center, Taiwan. Microsurgical biliary reconstruction was performed by a single microsurgeon. Bile leaks, bilomas, and the time needed for resolution were recorded through retrospective medical chart review. Bile leak was defined as bile drainage from drain for greater than 3 days. Biloma was diagnosed with either abdominal sonography or CT scan. Fibrin glue was utilized in six patients when bile leak was noted from the anastomosis or raw surface of the donor liver during operation. Student t-test was used for statistical analysis. **Results:** A total of 19 out of 271 patients (15 male; 4 female) have suffered from bile leaks (7.0%). Among these 19 patients, biloma formation was also identified in 12 patients (4.4%). The mean diagnostic time for biloma formation was 28.3 +/- 20.4 days (5-76 days) after LDLT. Six out of 12 biloma patients (50%) received pigtail drainage. The rest of the six biloma patients resolved spontaneously. The time between the initial biloma diagnosis and resolution were 59.7 +/- 39.9 days (9-123 days) and 38.8 +/- 13.6 days (22-61 days) for spontaneously resolved biloma and pigtail-drained biloma, respectively ($p=0.254$). The size for the spontaneously resolved biloma and pigtail-drained biloma was 34.7 +/- 33.5 cm² (6-100 cm²) 82.3 +/- 41.9 cm² (44-160cm²), respectively ($p=0.054$). No bile leak was observed in all 6 patients using fibrin glue,

and no biloma was found by sonography during 6 months follow-up. Conclusion: Microsurgical biliary reconstruction yielded a low bile leakage rate. Fibrin glue may be an option to minimize bile leak from raw surface or stitch hole.