Primary Endoscopic Treatment for Biliary Strictures after Living Donor Liver Transplantation

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Background: Biliary strictures after living donor liver transplantation (LDLT) are a therapeutic challenge for endoscopy. Endoscopic intervention is considered to the primary treatment for biliary stricture after LDLT. The aim of this study was to investigate the clinical outcomes and predictors of failure after the primary endoscopic treatment.

Patients and Methods: Of 168 patients who underwent LDLT between February 2005 and September 2009, 40 (23.8%) were diagnosed with anastomotic biliary strictures. Of these 40 patients, 34 patients (85.0%) had undergone ERCP as an initial approach.

Results: The overall success rate of the primary endoscopic treatment was 61.8% (21/34). Among 13 patients with the failure of the primary endoscopic therapy, combined endoscopic-percutaneous approach was used in 4 patients (30.8%). Procedure-related complications, such as cholangitis (11.8%), pancreatitis (3.4%), bleeding (8.8%) and bile leakage (2.9%), were all successfully managed by medical treatment. The failure of the primary endoscopic treatment was associated with patient age more than 50 years (100% vs 71.4%), late biliary stricture over 12 weeks (81.8% vs 47.6%), and anastomosis shape (pouched: intermediate: triangular 27.3% : 63.6% : 9.1% vs 14.3% : 42.9% : 42.9%) although these were of borderline statistical significance. The median follow-up period was 32.3 weeks. Resolution of strictures was achieved in 11 (52.3%) of these 21 patients. Recurrent stricture occurred in only one patient (9%) after 66 weeks of therapy.

Conclusions: ERCP is an effective first modality in the management of anastomotic biliary stricture after LDLT. However, the failure rate of the primary endoscopic treatment may be high in patients with old age, late onset of biliary stricture and the pouched shape of biliary anastomosis.

Keywords: Bile duct, Liver, Living donor, Stricture, Transplantation