Aims: Biliary complication (BC) is one of the major problems after living donor liver transplantation (LdLT). In this study, incidence, risk factors of BC and the effectiveness of endoscopic management for BC after LdLT.

Materials and Methods: 139 patients who underwent LdLT from May 2005 to January 2010 in Daegu Catholic University Hospital were retrospectively studied. Clinical findings, laboratory data, and operation records were collected for analysis. In cases developed BC, follow-up data on clinical outcome after treatments were assessed.

Results: Among the 139 patients who underwent LdLT, 20 patients (14%) developed BC: 17 biliary strictures, 2 bile leakages and 1 acute angulation of bile duct. Eight cases (8.3%) of BC were developed in 96 patients with single duct-to-duct biliary reconstruction (DD) and 12 cases (27.9%) of BC were developed in the other 43 patients with non-single DD (p=0.01). Average interval from day of LdLT to development of BC was 178±138 days (range 5~480 days). In the 20 patients with BC, 18 patients underwent endoscopic retrograde cholangiopancreaticography (ERCP). Stent insertion was tried in 15 patients and succeeded in 10 patients (67%). Inserted stent could be permanently retrieved in 3 patients after mean stent maintenance duration of 164 days (range 1~431 days). When stent placement failed, percutaneous transhepatic biliary drainage or endoscopic nasobiliary drainage (ENBD) was performed. All patients with BC survived without mortality or serious morbidity during mean follow-up period of 546±285 days (range 171~1,375 days).

Conclusions: BC usually occurred within 2 years after LdLT. BC was more common in patient with non-single DD. Nonoperative treatments, especially ERCP with stent placement or ENBD was effective in all patients with BC after LdLT.

Key Words: Living donor liver transplantation, Biliary stricture, Bile leakage, Endoscopic nasobiliary drainage, Stent