Background/Aims: Biliary stricture is the most common and important complication after right-lobe living-donor liver transplantation (RL-LDLT) with duct-to-duct biliary anastomosis. Endoscopic treatment is useful method for the management of biliary stricture. We evaluated the long-term outcomes after the endoscopic treatment of biliary stricture and related factors.

Methods: Three hundred thirty-nine adult RL-LDLTs with duct-to-duct biliary anastomosis were performed between January 2000 and May 2008 at Kangnam St. Mary’s Hospital. Biliary strictures developed in 121 (35.7%) patients. Endoscopic retrograde cholangiography (ERC) was performed in 113 patients and they were retrospectively analyzed.

Results: Ninety-five (78.5%) biliary strictures occurred within one year of surgery. The mean number of ERCs performed per patient was 3.2 (range, 1~11). The serum biochemical markers decreased significantly after ERC ($p<0.001$). During a median follow-up period of 23 months (range, 1~68) from the first successful treatment with ERC, 51 (45%) patients achieved a stent-free status and 24 (21%) patients had inside stents. The factors related to long-term outcomes after endoscopic treatment were nonanastomotic stricture and portal vein stenosis or thrombosis ($p=0.011$).

Conclusions: Endoscopic treatment was efficacious and had good long-term outcomes in the management of biliary strictures related to RL-LDLT with duct-to-duct biliary anastomosis. Nonanastomotic stricture and portal vein stenosis or thrombosis were related to worse long-term outcomes after endoscopic treatment.