

Clinical Outcome of Internal Stent for Biliary Anastomosis in Liver Transplantation

S.W. Jung, D.S. Kim, Y.D. Yu, and S.O. Suh

ABSTRACT

Background. This study analyzed the incidence and management of biliary complications after liver transplantation (LT) with or without internal stent.

Methods. The medical record of all patients who underwent LT and were hospitalized from December 2009 to March 2013 were reviewed. Patients were grouped into 2 groups (internal stent group vs no stent group).

Results. There were 29 deceased-donor liver transplantations (58%) and 21 living-donor liver transplantations (42%). There were 2 perioperative mortalities, and those 2 patients were excluded from this study. The overall biliary complication rate was 6.45% in the internal stent group and 17.65% in the no stent group. The rate of anastomotic stricture was 3.23% ($n = 1$) in the stent group and 11.76% ($n = 2$) in the no stent group. The rate of bile leak was 3.23% ($n = 1$) in the stent group and 0% in the no stent group. The rate of biliary obstruction was 0% in the stent group and 5.88% ($n = 1$) in the no stent group.

Conclusions. The overall rate of biliary complications in the internal stent group was lower than in the no stent group, and most of the biliary complications could be treated successfully with endoscopic or radiologic intervention.

LIVER TRANSPLANTATION (LT) has become a standard medical treatment as a result of many advances in surgical technique, organ preservation, and immunosuppression. Despite this progress, problems of the bile duct remain a significant cause of short-term and long-term morbidity. Biliary complications can extend the hospital stay significantly, and they often require invasive procedures, such as endoscopic retrograde cholangiopancreatography (ERCP), percutaneous transhepatic cholangiography, reoperation, or even retransplantation.

Biliary reconstruction is the final step of LT and can be carried out according to 2 main techniques. One is duct-to-duct anastomosis (DD), is rapid, simple, and physiologic. The other, Roux-en-Y hepaticojejunostomy (HJ), is used when the former is not feasible for anatomic reasons or for causes related to the underlying hepatobiliary disease. Usually DD has been done over a T-tube. The use of this stent allows monitoring of bile flow and color and easy performance of cholangiography; however, the presence of a T-tube may also lead to specific complications that account for 30%–50% of overall biliary complications [1].

Many authors have published advantages and disadvantages associated with the use of a T-tube. But there were few

studies about internal stent and biliary complication. The aim of the present study was to compare the incidence of biliary complication after biliary reconstruction with or without internal stent in LT.

PATIENTS AND METHODS

From December 2009 to March 2013, a total of 50 LTs were performed in the Anam Hospital, Korea University Medical Center. To evaluate the clinical outcome of internal stent, the medical record of the 50 patients who had undergone LT were reviewed.

Biliary continuity was established by either DD or HJ. In both reconstructions, internal stent was used or not used by the surgeon's decision. We did not use external stent. For internal stent, small-bore (6–8 french) silastic stent was used.

From the Department of Surgery, Korea University College of Medicine, Seoul, Korea.

Address reprint requests to Dong-Sik Kim, MD, PhD, Division of Hepatobiliary-Pancreatic Surgery and Liver Transplantation, Department of Surgery, Korea University College of Medicine, Inchon-ro 73, Seongbuk-gu, Seoul, Korea. E-mail: kimds1@korea.ac.kr

Table 1. Characteristics of Liver Transplant Recipients and Donors

	Internal stent (n = 31)	No stent (n = 17)	P value
Recipient age (y), mean ± SD (range)	52 ± 10.09 (33–70)	51.65 ± 9.19 (34–66)	.22
Recipient sex (M/F)	20/11	9/8	.41
Recipient body weight (kg), mean ± SD (range)	66.06 ± 13.22 (34–97)	65.8 ± 9.34 (50–83)	.32
Cause of liver transplantation			
Hepatitis B-related cirrhosis	22	8	.14
Hepatitis C-related cirrhosis	3	0	.27
Fulminant hepatitis	2	6	.38
Hepatocellular carcinoma	22	6	.09
Child classification, n (%)			
A	6 (19.35%)	2 (11.76%)	.59
B	10 (32.26%)	2 (11.76%)	.12
C	15 (48.39%)	13 (76.47%)	.22
MELD score, mean ± SD	17.29 ± 9.71	23.82 ± 11.30	.08
Donor age (y), mean ± SD (range)	35.68 ± 13.07 (6–63)	45.94 ± 13.19 (21–71)	.2
Donor sex (M/F)	25/6	12/5	.09
Graft type, n (%)			
Whole liver	13 (41.94%)	15 (88.24%)	.07
Right lobe	16 (51.61%)	1 (5.88%)	.06
Left lobe	2 (6.45%)	1 (5.88%)	.19
Number of graft bile duct openings, n (%)			
1	24 (77.42%)	16 (94.12%)	.12
2	6 (19.35%)	1 (5.88%)	.08
≥3	1 (3.23%)	0 (0%)	.2
Size of graft bile duct, n (%)			
≤5 mm	6 (19.35%)	1 (5.88%)	.15
>5 mm	25 (80.65%)	16 (94.12%)	.2

Abbreviation: MELD, Model for End-Stage Liver Disease.

We grouped all patients into 2 groups. One was the internal stent group, who used internal stent in biliary reconstruction, and the other was the no stent group, who did not use internal stent.

Values are presented as mean ± SD. Frequencies of qualitative data and the presence of biliary complication in each group were determined using Pearson chi-square test. Comparison of the statistical significance between the 2 groups was performed according to analysis of variance for donor and recipient quantitative data. Results were considered to be significant for $P < .05$.

RESULTS

There were 29 deceased-donor liver transplantations (58%) and 21 living-donor liver transplantations (42%). All recipients were adults. There were 2 perioperative mortalities, and those 2 patients were excluded from this study. Forty-six of the patients (95.83%) had their initial biliary reconstruction

by DD. Two patients (4.17%) were initially reconstructed with HJ. In 4 patients, 5 cases of biliary complication developed. One patient had 2 different biliary complications. Thirty-one patients (64.58%) had undergone LT with internal stent and 17 (35.42%) without stent. The mean follow-up time was 18.79 ± 10.61 months in the internal stent group and 24.52 ± 13.66 months in the no stent group. Baseline demographic characteristics and disease-related data were similar in the 2 groups (Table 1). There was no difference in intraoperative data between the groups (Table 2).

The overall biliary complication rate was 6.45% in the internal stent group and 17.65% in the no stent group. In the internal stent group, there were 2 biliary complications. One was bile leak, and the other was anastomotic stricture. The time intervals during which bile leak and anastomotic

Table 2. Intraoperative Data of All Patients

	Internal stent group (n = 31)	No stent group (n = 17)	P value
Type of biliary reconstruction			
Duct-to-duct anastomosis	30 (96.77%)	16 (94.12%)	.5
Roux-en-Y hepaticojejunostomy	1 (3.23%)	1 (5.88%)	.43
Operation time (min), mean ± SD (range)	885 ± 241 (515–1,430)	750 ± 139 (590–1,130)	.31
Transfusion (pints), mean ± SD (range)			
Red blood cells	22.71 ± 22.93 (0–117)	23.41 ± 14.21 (9–69)	.21
Platelets	3.58 ± 9.50 (0–35)	17.82 ± 15.77 (0–48)	.08
Fresh frozen plasma	10.13 ± 13.78 (0–48)	24.29 ± 15.87 (2–67)	.07

Download English Version:

<https://daneshyari.com/en/article/4258411>

Download Persian Version:

<https://daneshyari.com/article/4258411>

[Daneshyari.com](https://daneshyari.com)