Biliary Reconstruction in Living Donor Liver Transplantation

Ahmed Swelam1, Mohammad Hamdy Abo-Ryia1, Osama ElKhadrway2, Tarek Ibrahim3, Gamal Moussa1, Sherif ElGarf4, Marc Antoine Allard2, Eric Vibert2, Daniel Cherqui2, Denis Castaing2, Rene’ Adam2
1Gastrointestinal & Laparoscopic Surgery Unit, General Surgery Department, Tanta University, Egypt.
2Hepatobiliary & Pancreatic Surgery Unit, CHB, Paul Brousse Hospital, Villejuif, France.
3National Liver Institute, Menofya University, Egypt
Ahmed_swelam1@yahoo.com

Introduction

- Liver transplantation has become the treatment of choice in patients with end-stage liver disease (ESLD) and hepatocellular carcinoma (HCC). However, more recently, successful transplantation for various indications has resulted in a relative shortage of cadaveric organs. To overcome these limitations, one possible option has been demonstrated using living donor liver transplantation (LDLT) (Trotter et al., 2002).
- Biliary complications (BC) remain a major cause of morbidity after living donor liver transplantation (LDLT) and have been called the “Achilles’ heel” of living donor liver transplantation (Yan et al., 2007).
- Regardless the improvements of immunosuppression, organ preservation, intraoperative management, and refinements of surgical technique, the incidence ranges from 11% to 40% (Fan, 2008).
- Assessment of the biliary anatomy is challenging points in the donor selection process and surgical planning in LDLT.
- Biliary anatomy is variable and a conventional branching pattern of the CBD into right and left ducts is only present in 57% to 60% of the normal populations.

Aim of the Work

- The aim of this work is to assess the outcome of different techniques of biliary reconstruction and their impact in living donor liver transplantation in patients with end stage liver diseases and hepatocellular carcinoma.

Patients and Methods

- This was a prospective study that carried out at Paul Brousse Hospital, Villejuif, South Paris University, France during the period from January 2012 to August 2016 and included 40 patients who underwent living donor liver transplantation using either right or left lobe liver graft.

Results

- Overall incidence and risk factors of biliary complications ten patients (25%) developed biliary complications. Biliary leakage occurred in 6 patients (15%) and biliary stricture occurred in 5 patients (12.5%). One patient developed both biliary fistula and stricture. There were no significant differences between the patient with or without biliary complication regarding the following variables; the MELD score (22.1±15.98 versus 15.60±5.38), donor age (44.90 ± 11.04 years versus 40.27 ±8.82 years), GRWR (0.87±0.16% versus 0.94 ±0.27%); arterial ischemia time (138.60 ±42.53 minutes versus 144.30±43.41 minutes); and portal ischemia time (75.60 ±42.25 minutes versus 84.67±41.44 minutes).

Conclusion

- D-D anastomoses seems to be more advantageous, as they do not damage the physiology of the biliary tracts do not cause an ascending infection can be performed faster they allow for subsequent ERCP.
- Concerning the technique to be employed and the suture material to be used, our preference is absorbable monofilament sutures, with the interrupted suture faster they allow for subsequent ERCP.
- Only 1 patient who was presented with both biliary fistula and stricture required conversion from D-D anastomosis to RYHJ.

References