

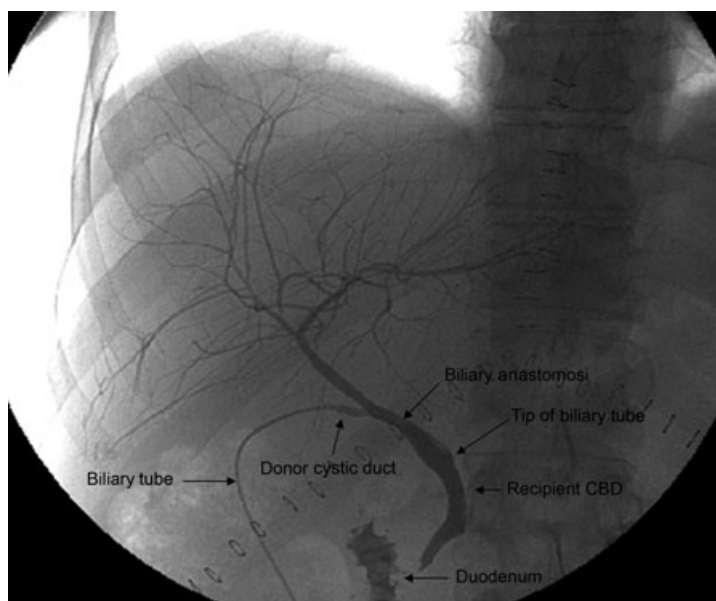
## Bile duct stenting in liver transplantation

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Dear Sirs,

We read with great interest the article by Tranchart *et al.* [1] regarding their biliary reconstruction technique in liver transplantation in patients whose donor common bile duct was less than 5 mm in diameter. They describe their experience in 20 patients who had placement of an intraductal stent tube across the reconstructed common bile duct with subsequent removal months later using ERCP. They report overall four biliary complications, including cholangitis, hemobilia, bile leak, and anastomotic stricture. The stents were removed successfully using ERCP in 17 patients (85%). Fifteen patients required limited sphincterotomy during ERCP prior to stent removal. No complications were noted following the ERCP procedure. The authors set out to investigate this new technique because various studies have shown that placement of a T-tube during liver transplantation does not prevent biliary stricture formation and does not decrease incidence of bile leaks [2]. In fact, T-tubes are associated with increased morbidity.

We agree with the authors' concern that biliary complications continue to remain the "Achilles heel" in liver transplantation, and we would like to share our experience with the bile duct stenting technique during liver transplantation. Since 1998, we have performed over 2300 liver transplants at our center and have successfully used transcystic biliary tubes in the majority of cases [3]. Once the allograft gallbladder is removed and before the initiation of bile duct anastomosis, we thread a 5-Fr ureteral stent (Bard polyurethane ureteral catheter; C. R. Bard Inc., Covington, GA, USA) through the donor cystic duct. The stent is subsequently secured to the donor cystic duct with a 5-0 Vicryl suture and a hemorrhoidal rubber band [4,5]. The duct-to-duct biliary reconstruction is then completed. The anastomosis is tested intraoperatively by injecting the biliary tube with saline. Before closure of the abdominal incision, the tube is externalized, secured to the anterior abdominal wall, and left to gravity drainage. After post-transplant cholangiogram on day 3, the biliary tube is capped until day 21 cholangiogram (Fig. 1). If this



**Figure 1** Cholangiogram using a transcystic biliary tube.

cholangiogram reveals a normal biliary tree, the biliary tube is then removed in the outpatient setting. At 3 weeks, the intraoperatively placed Vicryl suture has desolved, and gentle pull allows easy removal of the stent; thereafter hemorrhoidal rubber band prevents bile leak from cystic duct stump.

Our technique has several advantages – it does not require any additional invasive procedures, such as ERCP, and in addition to stenting the duct it permits reliable access to the biliary tree via cholangiogram in the post-transplant period for radiologic interrogation of the biliary tree.

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#### Conflicts of interest

No conflict of interest.

#### Funding

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