

ANSWERING REVIEWERS

Nov. 19, 2013.



Ferruccio Bonion, MD, PhD.

Editors,

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Re: Topic Highlight. ID (00054159) entitled **Interventional Radiology in Living Donor Liver Transplant**

Dear Dr. **Ferruccio Bonion**:

Thank you for your interest in the above manuscript. Enclosed is a copy of the manuscript that has been revised in accordance with the reviewer's comments. The changes are outlined as follows:

Reviewer 1

This is a report on an experience of non surgical procedures performed in order to treat complications in recipients of living related liver transplantation. I would suggest to report in the background and in the references, recent work on this area published in the WJG such as:

1)103. Interventional radiology procedures in adult patients who underwent liver transplantation." Roberto Miraglia, Luigi Maruzzelli, Settimo Caruso, Mariapina Milazzo, Gianluca Marrone, Giuseppe Mamone, Vincenzo Carollo, Salvatore Gruttadauria, Angelo Luca, Bruno Gridelli. Salvatore Gruttadauria, MD, Associate Professor, Series Editor World J Gastroenterol 2009 February 14; 15(6):684-693 PMID:19222091. 2) Right hepatic lobe living donation: A 12 years single Italian center experience. Salvatore Gruttadauria, Duilio Pagano, Davide Cintorino, Antonio Arcadipane, Mario Traina, Riccardo Volpes, Angelo Luca, Giovanni Vizzini, Bruno Gridelli, Marco Spada. World J

Gastroenterol 2013 October 14; 19(38): pag. 6353-6359 ISSN 1007-9327 (print)
ISSN 2219-2840 (online) doi:10.3748/wjg.v19.i38.6353. **We add the above
paper in the background and reference 2 and reference 7**

Reviewer 2

This paper describes interventional treatments for postoperative complications of the hepatic artery, portal vein and bile duct after living donor liver transplantation. Although the paper is well written, it includes several problems as described below. 1) On hepatic artery stenosis and portal vein stenosis, more concrete description of treatment techniques should be described. We add the description of hepatic artery and portal vein stenosis treatment techniques in page 4 line 22 to page 5 line 10 "**Roberto Miraglia et.al⁽⁷⁾ reported a technique, from a transfemoral approach, with a 5F Cobra 2 or SOS catheter. A coaxial microcatheter is then advanced through the stenosis and the trans-stenotic pressure gradient measured. If a significant pressure gradient is present (> 10 mmHg) then an angioplasty is performed. Before angioplasty, 0.2 mg of nitroglycerine and 2000 UI of heparin are infused into the hepatic artery to reduce the risk of spasm or thrombosis. A 6F guiding catheter is advanced and a balloon catheter advanced over a 0.018 inch or 0.014 inch stiff wire. The diameter of the balloon used varies according to the diameter of the hepatic artery, ranging from 3 to 6 mm. Procedural success is determined by reduction or absence of the stenosis in a final arteriogram with significant reduction of the transstenotic pressure gradient. If a good patency is not restored, a metallic stent is deployed.**" and in page 6 line 21 to page 7 line 19" **In our practice, a percutaneous transhepatic/transplenic puncture of the intrahepatic PV was performed using a 21-gauge Chiba needle (Cook, Bloomington, IN) under ultrasonographic and fluoroscopic guidance. Using Seldinger technique, a 0.018-inch wire was advanced into the main PV. The needle was changed to a 4-French coaxial dilator and a 7-French sheath (Terumo, Tokyo, Japan) over a 0.035-inch angled hydrophilic guide wire (Terumo, Tokyo, Japan). An initial contrast study to serve as a 'road map' was performed. The guide wire was manipulated to advance beyond the point of occlusion or stenosis.**

A 0.018-inch or 0.035-inch guide wire and a 4-French J curve catheter (Terumo, Tokyo, Japan) were used to traverse the PV occlusion or stenosis. Guide wire manipulation was carried out according to the 'road map' and 'feel'; as the guide wire was advanced, repeat contrast studies were obtained when necessary. In stenosis patients, a main PV venography and the pressure gradient across the stenosis were obtained. In total occlusion patients, a combination of hydrophilic guide wires with straight, angled and 'J' tips and different sizes (0.018-inch or 0.035-inch) with supporting catheters (straight or angled) were often necessary to successfully pass the occluded segments. Once the correct plane was entered, rapid progress without perforation could be obtained with development of a loop or extended J at end of a guide wire during manipulation. A wall stent (7-10 mm with viable length; Boston Scientific, Natick, MA) was placed to bypass the stenotic or occluded portion. Balloon angioplasty following stent placement was performed if necessary."

2) On hepatic artery stenosis, portal vein stenosis, hepatic vein stenosis and bile duct stenosis, the success rates of interventional treatment and surgical treatment should be added and discussed with long-term results. We add hepatic artery stenosis, portal vein stenosis, hepatic vein stenosis and bile duct stenosis, the success rates of interventional treatment in page 5 line 22 to page 5 line 24" **Percutaneous transluminal angioplasty has also been reported to be an effective treatment of HA stenosis after living donor LT, with a success rate of 94% "**, in page 7 line 19 to page 7 line 23 **"For the percutaneous transsplenic approach (n = 8), the success rate was 75% (6/8). For the percutaneous transhepatic approach (n = 10), in the three patients who received a right lobe graft, the success rate was 100% but in seven patients who received a left lobe graft, the success rate was only 57%."**, in page 8 line 22 to page 9 line 1 **"Anti-coagulation agent must be given at least 6 month. In our experience, long term patency of the hepatic vein stents is 100%(3/3) in our center"** and in page 9 line 23 to page 10 line 2 **"The success rate of endoscopy is more closely relevant to the technician's skill level, than is the success rate of percutaneous intervention."**

Reviewer 3

There should be emphasis on how interventions are different in living vs cadaveric donors .Most of the data are from literature on cadaveric donors . So the title is some how misleading . Possible rule of interventions for complications in donors are not discussed at all.

We add **Patients who undergo LDLT have a higher risk of complications than those who undergo deceased donor liver transplantation (LT) in conclusion.** There is no big different in in living vs cadaveric donors expect more Roux-en-Y anastomoses in LDLT. we descript **the Percutaneous and surgical modalities are now reserved for patients in whom endoscopic treatment fails and for those with multiple inaccessible intrahepatic strictures or Roux-en-Y anastomoses in biliary complication portion.**

The reviewer's comments are very much appreciated and we are confident about the improvement made on this manuscript. We trust that it is now acceptable for publication.

Yours sincerely,

Yu Fan Cheng, M.D.