

Dear Editors and Reviewers:

Thank you for your letter and for the reviewers' comments concerning our manuscript entitled "Clinical outcome comparison between transcatheter selective superior mesenteric artery urokinase infusion therapy and transjugular intrahepatic portosystemic shunt in patients with cirrhosis and acute portal vein thrombosis"(tracking number 35553). Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have read the comments carefully and have made correction which we hope meet with approval. Revised portions are marked in red with track changes. The main corrections in the paper and the responds to the reviewer's comments are as following:

Reviewer 1

Major 1. The major omission is an arm where patients were treated with anticoagulation alone. This would be heparin followed by warfarin. A recent meta-analysis showed anticoagulation to be effective in cirrhosis and PVT. (PMID: 28479379) Subjecting a patient to the risks of thrombolysis and TIPSS may not actually be necessary. I am not aware of other studies comparing anticoagulation alone with thrombolysis/TIPSS in acute PVT.

Response: Thanks for the reviewer's suggestion. We have consulted this meta-analysis(PMID: 28479379) and taken it as a reference. Regrettably, there is a significant lack of strong evidence in treating PVT in the setting of cirrhosis. There are no randomized clinical trials, and most evidence in treatment comes from case series and observational studies. Some studies have shown that TIPSS may have the following advantages:(i) the rate of portal vein recanalization is relatively higher because of the use of intravascular techniques and scouring effect after creation of a portosystemic shunt ^[1, 2].(ii) the risk of portal hypertension-related complications can be decreased by creating a portosystemic shunt ^[3]. The benefits of thrombolysis are as follows: this method is simple, easy and safe, and the thrombolytic agent will circulate into the intestinal vein branch, which is more ideal for the treatment of the fresh thrombus of the small mesenteric vein.

Major 2. It is not clear if all patients had an endoscopy to check for varices prior to thrombolysis. This is essential especially as a significant number of patients had a history of previous bleeding.

Response: Thanks for the reviewer's suggestion. As suggested, we have added this point into our revised manuscript and the details can be found in Line6-8, Page6.

Major 3. It is clear that it is patients with grade I and II PVT that benefit the most. This should be emphasised.

Response: As suggested, we have added this point into our revised manuscript and the details can be found in Line9-10, Page12 and Line20-21 , Page15.

Minor 1. In the TIPSS arm how long were patients maintained on warfarin?

Response: Thanks for the reviewer's suggestion. we have added this point into our revised manuscript and the details can be found in Line2, Page8.

Minor 2. I am not sure what is meant by shunt dysfunction in the SMA group. I don't think a shunt was created in this group?

Response: We are sorry for the inappropriate expression. We have deleted this comparison item.

Minor 3. There are several errors in the references with duplication.

Response: We are very sorry for the error of references. As suggested, we have deleted the references with duplication and added new references (reference 11and 17).

Minor 4. The EASL guidelines on vascular liver diseases should be referenced.

Response: As suggested, The EASL guidelines has been added as a reference (reference 17).

Reviewer 2

1. The only limitation of the study is the number of patient. I think that 40 vs 40 could evidence differences who now are just hint by the small cohort of patients.

Response: Thanks for the reviewer's kind suggestion. Some studies involving fewer than 40 patients also yield valid conclusions^[4,5]. Further large-scale studies will be implemented later.

Editors

Response:

1. We did not find PMID and DOI of the fourth reference, but we provided Embase identification number (PUI) :L604737615.
2. We did not find references 5 and 12 in PubMed, So we only provided DOI.

Your help and assistance is highly appreciated and I am looking forward to hearing from you.

Best regards

Yours sincerely,

Jian Gao

References:

1. Qi X, Han G. Transjugular intrahepatic portosystemic shunt in the treatment of portal vein thrombosis: a critical review of literature. *Hepatol Int* 2012; 6: 576–90. (IF 2.1)
2. Han G, Qi X, He C, et al. TIPS for portal vein thrombosis (PVT): still a long way to go. *J Hepatol* 2011; 55:947–8. (IF 12.4)
3. Qi X, Han G, Fan D. The preferable treatment for cirrhotic portal vein thrombosis: anticoagulation or transjugular intrahepatic portosystemic shunt? *Hepatology* 2010; 51:713–4. (IF 13.2)
4. Wang M Q, Guo L H, Liu F Y, et al. Transradial approach for transcatheter selective superior mesenteric artery urokinase infusion therapy in patients with acute extensive portal and superior mesenteric vein thrombosis.[J]. *Cardiovascular & Interventional Radiology*, 2010, 33(1):80-89. (IF 2.1)
5. Wang M Q, Liu F Y, Duan F, et al. Acute symptomatic mesenteric venous thrombosis: treatment by catheter-directed thrombolysis with transjugular intrahepatic route[J]. *Abdominal Imaging*, 2011, 36(4):390-398. (IF 1.8)