

Dear editors and reviewers

We thank the opportunity that you give to us to further review our manuscript with the aim to fully address reviewer's comments. Here are our point-to-point responses.

**1. You also emphasize the method of treatment, but there is no mention of it in the title and introduction.**

We agree with your opinion and have changed the title. The new title is "Simultaneous embolization of spontaneous porto-systemic shunts and intrahepatic arterioportal fistula: a case report".

**2. Serum levels of ammonia alone are not enough to determine the presence of a PSS and just can be used to determine its severity. Why not use the ICG-R15 values along with serum ammonia?**

We agree with your opinion. ICG-R15 is a good indicator of a SPSS if the liver biochemistry blood test and biopsies show no sign of liver failure. However, ICG is not a routine test for the evaluation of liver function in our center, except in patients who would receive liver resection. We believe the combination of ammonia and ICG-R15 would be of great value for the diagnosis.

**3. With respect to the high complication of embolization such as damage to the lung, heart, or other areas beyond the liver by the administered compounds such as the coils, why didn't you use medications for reduction of portal inflow such as beta-blockers in addition to Isosorbide-5-mononitrate before more invasive intervention? To describe precisely, what are the future directions of intervention you recommend for gastroenterologist in the management of similar cases?**

Embolization of SPSS for the management of persistent encephalopathy or recurrent OHE has been evaluated in several studies. A retrospective and multicenter cohort study by Laleman et al. (Hepatology. 2013 Jun;57(6):2448-57) indicated that embolization of large SPSSs for the treatment of refractory HE was relatively safe and effective over an average follow-up of almost 2 years. Migration of coils is rare and could be avoided in experienced center.

However, the use of NSBB may be associated with a higher risk of overt HE. (Hepatology

2018;68:1498–507). Based on current evidence, embolization of SPSS need to be considered in patients with refractory HE.

**4. I'm interested to know the long follow-up of the patient.**

Up to now, the patient showed no sign of HE for 9 months after the procedure. The latest examinations in the local hospital showed that serum ammonia was 30.7umol/L.

**5. The following paper is suggested to use in general considerations:**

- **Br J Surg. 2014 Nov;101(12):1509-17. doi: 10.1002/bjs.9619. Epub 2014 Sep 9. Systematic review of congenital and acquired portal-systemic shunts in otherwise normal livers. T J Matthews 1, M I Trochsler, F H Bridgewater, G J Maddern**

Yes, we have revised the discussion and cited this reference.