

**Portosystemic shunts in cirrhosis are associated to more complications and deteriorated quality of life. An international cohort study.**

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**Background and Aims:** Spontaneous portosystemic shunts (SPSS) have been reported in hepatic encephalopathy (HE). However, their prevalence in cirrhosis and association to decompensating events have not been assessed. The aims of this study were (i) to determine the prevalence of SPSS in cirrhosis and (ii) to assess the impact of SPSS on clinical course.

**Methods:** Consecutive cirrhotic patients submitted to abdominal angioCT/angioMR (2010-2015) were included in a retrospective, multicenter, international study. Advanced hepatocellular carcinoma, neurological, psychiatric or terminal illness were excluded. Patients were classified into 3 groups: large SPSS (L-SPSS,  $\geq 8$  mm), small SPSS (S-SPSS,  $< 8$  mm) or without SPSS (W-SPSS).

**Results:** 2978 patients were assessed, 1785 included. The median follow-up was 19.4 months (IR 7.9-34.9). Child-Pugh A 42%, B 38% and C 20%. Prevalence of shunts: 26% L-SPSS, 30% S-SPSS and 44% W-SPSS. Type of L-SPSS more often identified: splenorenal (47%), umbilical (26%). Distribution by Child was different (L-SPSS, S-SPSS, W-SPSS): Child A 24%, 30%, 46%; Child B 35%, 33%, 32%; Child C 41%, 38%, 21% ( $p < 0.001$ ).

Patients with L-SPSS had more HE (prior to CT, at the time of CT and during follow-up) compared to S-SPSS, and S-SPSS compared to W-SPSS (L-SPSS 58%, S-SPSS 42%, W-SPSS 27%,  $p < 0.001$ ). They also had a higher percentage

of recurrent/persistent HE (L-SPSS 50%, S-SPSS 40%, W-SPSS 31%,  $p<0.001$ ). There were no differences in HE grade (West-Haven criteria); however, differences in quality of life were found (autonomy according mRS: L-SPSS 76%, S-SPSS 81%, W-SPSS 91%,  $p<0.001$ ).

The stratified analysis by liver function showed that HE was more frequent in Child A (L-SPSS 35%, S-SPSS 17%, W-SPSS 10%,  $p<0.001$ ) and B (L-SPSS 62%, S-SPSS 45%, W-SPSS 39%,  $p<0.001$ ); recurrent/persistent HE was also related to SPSS in each Child class. The effect on quality of life of SPSS was observed in Child B and C. Child A patients with SPSS had also more ascites and bleeding ( $p=0.03$ ). Transplant-free-survival was not different according to the presence of SPSS in the 3 stages of Child.

**Conclusions:** SPSS are very common in cirrhosis and their prevalence increases with the deterioration of liver function. The most frequent SPSS found is splenorenal. The presence of SPSS is associated with frequent and severe HE-episodes and poorer quality of life, and more portal hypertension complications (ascites/bleeding) in Child A. No association with mortality was observed.

**Disclosure of Interest:** None Declared