

## Editorial



# Is Partial Splenic Embolization a Good Option to Prevent Cirrhotic Complications in the Long Term?

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The author has no potential conflicts of interest to disclose.

► See the article “Long-Term Efficacy and Safety of Partial Splenic Embolization in Hepatocellular Carcinoma Patients with Thrombocytopenia Who Underwent Transarterial Chemoembolization” in volume 34, number 30, e208.

Kim et al.<sup>1</sup> recently reported that partial splenic embolization (PSE) had good safety and efficacy to increase platelet counts in hepatocellular carcinoma (HCC) patients with thrombocytopenia who underwent trans-arterial chemoembolization (TACE). In this study, 18 HCC patients with severe thrombocytopenia ( $< 50 \times 10^9/L$ ) who underwent PSE concurrently with TACE (PSE group) and 72 controls who underwent TACE alone (non-PSE group) were enrolled. Regarding efficacy of PSE, platelet counts in the PSE group were significantly increased compared with those in the non-PSE group. Splenic infarction rates were significantly associated with increase in platelet counts after PSE with the median splenic infarction rates of 77.8%. Regarding safety of PSE in this study, the Child-Turcotte-Pugh scores within 6 months after treatment in the PSE group were significantly higher than those in the non-PSE-group. However, there was no significant difference of severe adverse events occurred in the two group: 11.1% and 9.7% of patients in the PSE and non-PSE groups, respectively.<sup>1</sup>

Although the authors reported good results showing thrombocytopenia improvement which reduces the need for the platelet transfusion and helps to perform initial and serial TACE, and no significant adverse events in this study, it is still questionable to prevent complications from cirrhosis or prolong overall survival in terms of long-term outcomes. Importantly, platelet counts in the PSE group tended to decrease over a follow-up period in this study. Furthermore, overall survival rates between the two groups were not significantly different. Complications from cirrhosis were also not assessed in this study.

In previous studies, 80% of PSE-treated patients commonly developed post-procedure fever, abdominal pain, splenic abscess, and long stay in hospital for a few weeks after PSE procedure. Portal and splenic vein thrombosis are also post-procedure adverse events in 5% of patients undergoing PSE even though the thrombosis risk was lower than patients undergoing splenectomy.<sup>2-4</sup>

Patients with more decompensated cirrhosis and larger areas of splenic infarct appear to be at higher risk for complications, and at the same time the patients are most likely to have a good response to treatment.<sup>3</sup> In terms of overall survival, most of previous studies including this study had failed to prove benefit of overall survival in patients undergoing PSE.

The results from this study were positive to improve thrombocytopenia without significant adverse effects.<sup>1</sup> However, it might need cautious interpretation of the results because of small study numbers at baseline and high rates of follow-up loss (36.7%) during the follow-up periods. It can be important how long platelet counts will be maintained and whether cirrhotic complications from thrombocytopenia will be preventable in patients undergoing PSE in the long term. Given transient effects of PSE on improvement of thrombocytopenia and frequently occurring adverse effects in previous studies, a further prospective study with larger sample size is required to confirm the results.

Despite the lack of evidence that hypersplenism occurs clinically severe adverse consequences in most of cirrhotic patients, there have been many reports suggesting various techniques to resolve the hypersplenism. However, the long-term benefits of solving hypersplenism remain unclear. Given remaining patients' survival from residual liver function and further available treatment option such as liver transplantation, it requires to assess clinical benefit vs. risk of correction of hypersplenism in each patient.

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