Peer Review File

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Review Comments:

1. Is this study really a study of prediction or is it rather early diagnosis of PVST? To use the term “prediction” the observations you use should be obtained at some time-point before the outcome you want to predict. But in this case, most of the data were collected after the splenectomy, - up to a week after – , and it is unclear whether that was in some cases at the same time PVST was diagnosed.

Reply 1: Thank you for pointing out the inappropriateness. Indeed, as you said, we cannot guarantee that all the indexes included after the operation were detected before the observation results appeared. We lacked consideration in the time point, so we adjusted the collection time of postoperative indicators to 1 day after surgery, except for platelet changes, which is the difference between the mean PLT within one week after the operation and the preoperative PLT. Because we performed abdominal ultrasonography on postoperative day 7, when most patients had already developed portal vein thrombosis, we removed the previously included postoperative portal vein flow rate and included preoperative portal vein flow velocity as a prediction index.

In addition, we compared the portal vein blood flow rate on the 7th day after surgery in patients with thrombosis (13 cases) after 1 week with those without thrombosis, and the univariate logistic regression analysis showed $P<0.05$, indicating that postoperative Portal vein blood rate is a risk factor after splenectomy, and further research is needed given the small number of cases.

Changes in the text: Page 9, line 167-170, table 1 and table 2.

2. How was PVST diagnosed? Is there a risk that the data you used for the prediction are the same that was used for the diagnosis of PVST?

Reply 2: Thank you for pointing out the question, the diagnosis of PVST is done by abdominal ultrasound. The postoperative portal blood flow rate we used before did partially overlap in prediction and diagnosis, which was risky, so we deleted this indicator and re-collected the patient's preoperative portal blood flow rate as a predictive indicator.

At the same time, we also compared the postoperative portal venous blood flow rate of patients with PVST after 1 week and those without thrombosis, and found that postoperative portal venous blood flow rate decreased as one of the risk factors for PVST. We will confirm further in our research.

Changes in the text: Page 9, line 167-170, table 1.

3. When was PVST diagnosed?. Important as explained in 1). Either produce a Kaplan-Meier type of curve or report how many PVST were diagnosed in week 1, in week 2, or after week 2 and before one month.

Reply 3: We performed abdominal ultrasound for the first time on postoperative day 7. A total of 50 patients developed PVST after surgery, of which 36 patients were diagnosed with PVST on day 7, 12 patients were diagnosed with PVST on week 2, and only 1 patient was diagnosed with PVST after 2 weeks and before one month.

Changes in the text: Page 8, line 157-158.

4. How was splenectomy performed ?. was there any additional surgery, as for example distal spleno-renal shunt surgery and/or stripping of gastric veins ? If so, was that used routinely or only in some of the patients ?. Could it be related to risk of PVST?

Reply 4: We used precise splenectomy. First, the splenic artery was ligated so that the spleen blood could be fully reinfused. When the spleen was nearly bloodless, the spleen blood vessels of grade 2 to 3 were ligated one by one, and finally the wound was stopped by hemostasis and serous suture.

Some patients also underwent portosystemic devascularization in only 13 cases, and the results of the univariate analysis showed $P>0.05$, indicating that the difference between the formation of PVST and whether or not to perform portosystemic devascularization was not statistically, it isn't related to risk of PVST. We added some data.

Changes in the text: Page 6, line 109-112, table 1.

5. Be more precise on the indication for splenectomy. Was that always hypersplenism or (sometimes?) also other signs of portal hypertension?

Reply 5: We added an indication for splenectomy to the inclusion criteria. The patients we included always had hypersplenism, and some patients also had other signs of portal hypertension, such as esophagogastric fundus, hepatic hilum, splenic hilum, umbilical vein collateral circulation formation, ascites, etc. We found that all patients with collateral

circulation, whether in the esophagogastric fundus vein or other varices such as the umbilical vein, developed PVST after surgery.

Changes in the text: Page 5, line 87-91. Page 12, line 225-230.

6. Make sure throughout the manuscript including abstract, result section, when you are dealing with preoperative and post operative data. Only the conclusion of the discussion is clear at this point.

Reply 6: We have modified our text as advised.

Changes in the text: Page 3, line 38-40,43; page 9, line 163-166; Page 10, line 180-181; page 12, line 223.

Minor comments

7. It is unclear why you use the term “portal vein systemic thrombosis”. Why “systemic” and not just "portal vein thrombosis" (PVT) ?.

Reply 7: Among the patients we included who developed thrombosis after surgery, we included portal veins and splenic vein thrombosis. PVST including the portal vein, the splenic vein, the superior mesenteric vein vein, and the intrahepatic portal vein, so we adopted the concept of portal vein systemic thrombosis. We added some data.

Changes in the text: Page 8, line 155-156.

8. Consider to use “PLT increase” instead of “PLT addition” .

Reply 8: we have modified our text as advised.

Changes in the text: Page 3, line 40,43; Page 7, line 131; Page 9, line 166; Page 10, line 181; Page 12, line 224; Page 13, line 251,253; Page 14, line 276; table 1 and table 3.

9. Line 41 have -> had

Reply 9: we have modified our text as advised.

Changes in the text: Page 3, line 41.

10. Line 45 “accuracy with the” -> “accuracy with a”

Reply 10: we have modified our text as advised.

Changes in the text: Page 3, line 45.

11. Line 48. spell out DCA first time

Reply 11: The full name of DCA is first spelled on line 35-36.

Changes in the text: Page 2, line 35-36.

12. Line 63. should be 0.25-0.4 /10 000.

Reply 12: we have modified our text as advised.

Changes in the text: Page 4, line 62.

13. Line 71 affect -> affecting

Reply 13: we have modified our text as advised.

Changes in the text: Page 4, line 70.

14. Line 90. .. receipt.. -> examination by

Reply 14: we have modified our text as advised.

Changes in the text: Page 5, line 92.

15. Line 104-6. It is not quite clear how LMW heparin was adjusted according to PLT and PVST conditions. Please explain.

Reply 15: The patients with splenectomy in the study were all treated with prophylactic anticoagulation: there was no obvious bleeding tendency within 3 days after surgery, and subcutaneous injection of low molecular weight heparin calcium injection 4 000IU q12h anticoagulation therapy was given for 7 to 10 days, and 200,000 units of urokinase were added to intravenous infusion bid when PVST appeared. After the re-examination of the color ultrasound found that PVST disappeared and the platelet count returned to normal, the low molecular weight heparin and urokinase were discontinued and oral aspirin anticoagulation was given for 3-6 months. Blood routines, liver and kidney function, and coagulation routines are closely monitored during treatment to assess bleeding risk. We have modified our text as advised.

Changes in the text: Page 6-7, line 113-123.

16. Line 157 .. screened out.. -> identified

Reply 16: we have modified our text as advised.

Changes in the text: Page 10, line 184.

17. Line 184 67% -> 62%

Reply 17: we have modified our text as advised.

Changes in the text: Page 11, line 211.