Responses to Reviewers' Comments

Reviewer #1: The manuscript entitled "Postoperative survival analysis and prognostic nomogram model for patients with portal hypertension" describe interesting results of a retrospective survey concerning survival and postoperative bleeding in patients after splenectomy plus pericardial devascularisation (SPD) vs splenectomy plus simplified pericardial devascularisation (SSPD). They successfully followed 557 and find no differences in survival and bleeding free survival between both groups. With independent predictors analysed with Cox regression test they design a nomogram for predicting survival in individualized patient. The results are interesting. Nevertheless as it was pointed out by authors it is a single centre study and results have to be validated and reproduced in other centres. In addition the study is retrospective so it is not free of bias. However the results are useful.

I suggest authors to describe population in a better way (maybe with a table including aetiology, Child- Pugh grades, MELD punctuation, etc).

Response: Thanks for your question.

We described 319 patients with complete data who required performing Cox regression analysis in the way as your suggestion, as shown in Table 1. But for the total followed 557 patients, for the lack of complete perioperative information, they could only get survival information from the patients or their families, and could not be demographically described as shown in Table 1.

I suggest authors be more explicit for the use of nomogram. It is very difficult to understand.

Response: Thanks for your question. We have added more explication for the use of nomogram as follows. Please refer to the red section in the last paragraph of the **RESULTS**.

"Each variable is projected upward to the value of the small ruler (Points) to get the score of each parameter. The higher the score, the worse the prognosis of survival. By summing the scores associated with each variable and projecting total scores to the bottom scale, the probabilities were estimated for the 1-, 3-, and 5-year OS and BFS rates. This Nomogram can predict the survival rate individually according to the different conditions of different patients, so as to improve the prediction efficiency and accuracy."

Make review English in the manuscript and make corrections accordingly.

Response: Thanks for your question. We have reviewed English in the manuscript carefully and made corrections accordingly. In addition, we have polished the language by a professional English language editing company.

Reviewer #2: This retrospective study We performed compared the outcomes of splenectomy plus pericardial devascularisation (SPD) versus splenectomy for patients with portal hypertension (PH). This study is interesting. However, the following concerns should be addressed before reconsideration of acceptance.

1. They retrospectively followed 1045 patients who underwent SPD between January 2002 and December 2017, but only five hundred fifty-seven (53.30%) patients were successfully followed. Even so, a lot of patients were lost to follow-up among these 557 patients (Fig 1).

Response: Thanks. This is a very good and professional question.

In this study, we followed up 557 patients in April 2018, including 48 patients who had been followed in 2012 and were survival at that time. However, we were unable to reach these 48 patients because of a change of contact or address, so we used this data as a censored data, it is lost to follow-up data. We have added as follows in the article. Please refer to the red section in the first paragraph of the **RESULTS**.

"These include 48 patients who had been followed in 2012 and were survival at that time.[5, 6] However, we were unable to reach these 48 patients now because of a change of contact or address, so we used this data as a censored data, it is lost to follow-up data."

2. The total number of each groups should be described in abstract.

Response: Thanks for your question.

We have described the total number of each groups in abstract as follows. Please refer to the red section in the first paragraph of the **RESULTS**. Please refer to the first sentence in RESULTS section of the Abstract.

"Five hundred fifty-seven (53.30%) patients were successfully followed with 192 in the SSPD and 365 in the STPD;"

3. In conclusion, the authors said 'especially in primary hospitals'. But all included patients were treated in a tertiary center. Conclusion should be made based on their findings.

Response: Thanks for your question.

The splenectomy plus traditional pericardial devascularisation (STPD) is complex and difficult to perform in primary hospitals. It can only be

performed by highly skilled doctors in tertiary center. However, splenectomy plus simplified pericardial devascularisation (SSPD) can simplify the traditional operation method and relatively reduce the requirement of the operator's operation skills. It can not only be implemented in tertiary center, but also be popularized and implemented in primary hospitals. It can bring more convenient medical environment for patients and reduce the difficulty of patients' medical treatment. So it is of great significance. Therefore, we say 'especially in primary hospitals'.

4. Did patients with HCC included or excluded? HCC is a common disease among patients with cirrhosis.

Response: Thanks for your question.

Actually, patients with HCC were excluded in our study. We have revised the exclusion criteria as follows: please refer to the first item in the exclusion criteria.

"The exclusion criteria were: (1) patients with hepatocellular carcinoma, acute heart failure, shock, or other vital organ diseases;"

5. Table 1. Baseline data should be described in two arms. And P value also shoud be provided.

Response: Thanks for your question.

First of all, we need to correct a writing mistake: "n = 329" in Table 1 should be "n = 319".

We have revised the Table 1 from one arm to two arms as follows. Please refer to the Table 1 in the Revised Manuscript.

Table 1 Patient demographics, laboratory information and perioperative characteristics (n = 319)

Parameters Mean ± SD/n (percentage)	STPD (n = 200)	SSPD (n = 119)	P value

Age, y	49.79±11.14	48.92±10.09	0.49
Gender, male	93(46.50%)	54(45.38%)	0.85
Aetiology: Hepatitis B/Hepatitis C/Others	131(65.50%)/23(11.50%)/46(23.00%)	88(73.95%)/17(14.29%)/14(11.76%)	0.04
Charlson score:0/1/2/3/≥ 3	105(52.50%)/54(27.00%)/21(10.50%)/20(10.00%)	62(52.10%)/42(35.29%)/12(10.08%)/3(2.52%)	0.06
Blood type: A/B/O/AB	57(28.50%)/62(31.00%)/59(29.50%)/22(11.00%)	36(30.25%)/33(27.73%)/36(30.25%)/14(11.76%)	0.94
History of variceal ligation	27(13.50%)	9(7.56%)	0.11
History of abdominal surgery	35(17.50%)	21(17.65%)	0.97
Smoking	57(28.50%)	28(23.53%)	0.33
Drinking	38(19.00%)	25(21.01%)	0.66
History of variceal bleeding	105(52.50%)	43(36.13%)	0.01
BMI	21.97±3.04	21.62±2.54	0.29
Child-Pugh score	6.56±1.27	6.92±1.29	0.02
MELD score	5.92±0.40	5.97±0.47	0.32
ALBI score	-2.26±0.50	-2.10±0.54	0.01
CCI score	18.64±11.78	17.53±9.53	0.38
WBC count, 10^9/L	2.79±1.78	2.40±1.38	0.04
Hb, g/L	93.35±24.77	94.74±25.82	0.63
Platelet count, 10^9/L	49.32±28.63	43.28±21.20	0.05
PT, s	13.85±1.96	14.29±1.82	0.04
INR	1.19±0.18	1.32±1.10	0.10
TBIL, mmol/L	27.24±16.22	29.37±16.81	0.26
DBIL, mmol/L	11.87±7.67	12.33±6.87	0.59
ALT, IU/L	35.79±55.76	38.20±31.58	0.67
AST, IU/L	43.72±52.72	44.55±33.76	0.88
ALB, g/L	37.24±5.50	35.61±5.66	0.01
GLB, g/L	28.36±5.90	29.03±5.91	0.32
Scr, mmol/L	62.44±18.02	58.71±13.68	0.05
Cys C, mg/L	1.12±0.32	1.11±0.25	0.71
Duration of the preoperative hospital stay, d	14.56±9.43	16.08±9.29	0.16
Duration of the postoperative hospital stay, d	15.75±6.46	14.97±5.30	0.27
Total hospital stay, d	30.61±12.20	31.77±11.75	0.40
Operative time, min	139.76±50.73	124.55±42.49	0.00
Intraoperative blood loss, mL	869.51±692.77	591.34±477.54	0.00
Time to first flatus, d	4.69±1.70	3.67±1.18	0.00

BMI: body mass index; MELD: model for end-stage liver disease; ALBI: albumin-bilirubin; CCI: Comprehensive Complication Index; WBC: white blood cell; Hb: haemoglobin; PT: prothrombin time; INR: international

normalised ratio; TBIL: total bilirubin; DBIL: direct bilirubin; ALT: alanine transaminase; AST: aspartate transaminase; ALB: albumin; GLB: globulin; Scr: serum creatinine; Cys C: cystatin C; SSPD: splenectomy plus simplified pericardial devascularisation