

Supplementary Table 1 Comparison of imaging parameters by MELD stage of liver cirrhosis

| | | MELD<12 (n=51) | MELD≥12 (n=69) | P value |
|-----------|--------------------------------|-------------------|-------------------|---------|
| Pre-TIPS | PPG, mmHg | 27.73±8.64 | 28.57±7.73 | 0.6738 |
| Post-TIPS | PPG, mmHg | 15.85±5.87 | 16.74±6.21 | 0.5552 |
| | PPG reduction,mmHg | 12.38±6.04 | 12.37±5.50 | 0.9935 |
| | PPG reduction,% | 0.43±0.13 | 0.42±0.14 | 0.7802 |
| | Spleen length,mm | 146.80±29.73 | 145.10±29.15 | 0.7529 |
| | Spleen thickness,mm | 56.80±16.97 | 54.09±14.99 | 0.3555 |
| | Spleen length/thickness | 2.70±0.59 | 2.80±0.61 | 0.3805 |
| | Spleen volume, cm ³ | 1118.00±339.50 | 1140.00±445.00 | 0.8291 |
| | Liver volume, cm ³ | 827.80±455.30 | 846.40±473.60 | 0.7679 |
| | Liver/spleen volume | 2.30±3.93 | 1.96±1.79 | 0.5288 |

Data are mean ± standard deviation, or median (interquartile range). MELD: Model for End-Stage Liver Disease; TIPS: Transjugular intrahepatic portosystemic shunt; PPG: Portosystemic pressure gradient.

Supplementary Table 2 Comparison of laboratory data and imaging parameters between pre-TIPS and post-TIPS

| | Before TIPS | After TIPS | <i>P</i> value |
|--------------------------------|-------------|-------------|----------------|
| WBC, 10 ⁹ /L | 3.03±1.87 | 2.69 ±0.99 | 0.8465 |
| PLT, 10 ⁹ /L | 68.43±53.37 | 57.71±26.19 | 0.8634 |
| INR | 1.40±0.16 | 1.54±0.2 | <0.05 |
| ALT, U/L | 25.10±24.76 | 30.94±18.95 | 0.4508 |
| AST, U/L | 34.57±22.78 | 47.29±26.26 | 0.1742 |
| ALB, g/L | 33.35±6.32 | 33.32±7.67 | 0.9959 |
| TBIL, μmol/L | 30.06±14.55 | 52.82±25.76 | <0.01 |
| UREA, mmol/L | 5.59±2.92 | 4.06±1.44 | 0.1791 |
| CRE, μmol/L | 60.44±14.45 | 55.89±14.91 | <0.05 |
| Spleen length, mm | 145.9±36.03 | 136.1±29.94 | 0.1038 |
| Spleen volume, cm ³ | 864.4±680.8 | 655.5±482.8 | <0.05 |
| Liver volume, cm ³ | 986.7±431.6 | 885.1±388.6 | 0.3545 |
| Liver/spleen volume | 1.99±2.27 | 2.12±2.06 | 0.8603 |

Data are mean ± standard deviation, or median (interquartile range). TIPS: Transjugular intrahepatic portosystemic shunt; WBC: White blood cell; PLT: Platelets; INR: International normalized ratio; ALT: Alanine aminotransferase; AST: Aspartate aminotransferase; ALB: Albumin; TBIL: Total bilirubin; UREA: Urea; CRE: Creatinine.

Supplementary Table 3 Comparison of laboratory data and imaging parameters by different causes of liver cirrhosis

| | Viral (n=64) | Alcohol (n=24) | Biliary (n=15) | AIH (n=7) | Others (n=51) | P value |
|--------------------------------|-----------------|-------------------|-------------------|---------------|------------------|---------|
| WBC, 10 ⁹ /L | 4.30±3.89 | 3.53±1.69 | 3.02±1.22 | 6.57±4.60 | 3.23±2.42 | <0.05 |
| PLT, 10 ⁹ /L | 77.01±74.06 | 71.71±44.93 | 89.12±63.27 | 149.60±147.80 | 70.08±37.79 | <0.05 |
| INR | 1.82±2.27 | 1.53±0.34 | 1.22±1.75 | 1.41±0.16 | 2.79±9.38 | 0.8104 |
| ALT, U/L | 26.97±19.20 | 38.54±55.43 | 21.53±18.18 | 32.33±23.60 | 28.85±58.81 | 0.7486 |
| AST, U/L | 36.14±23.50 | 46.21±52.19 | 27.87±15.18 | 39.83±23.02 | 50.43±123.10 | 0.7973 |
| ALB, g/L | 31.94±5.17 | 33.36±3.40 | 33.06±7.17 | 29.58±5.35 | 39.00±43.04 | 0.6249 |
| TBIL, μmol/L | 31.75±44.90 | 43.23±24.98 | 34.49±18.04 | 30.58±19.06 | 36.65±29.14 | 0.7292 |
| UREA, mmol/L | 7.31±7.77 | 5.48±3.47 | 11.90±23.46 | 5.67±2.20 | 6.77±10.53 | 0.4719 |
| CRE, μmol/L | 68.68±17.36 | 121.20±194.50 | 65.86±19.58 | 70.77±33.04 | 84.78±124.20 | 0.3388 |
| Spleen length, mm | 147.00±23.06 | 161.60±32.02 | 136.40 ±27.29 | 136.10±25.92 | 145.80±33.21 | 0.0699 |
| Spleen thickness, mm | 55.48±13.59 | 58.12±20.02 | 53.89±14.56 | 50.85±15.54 | 54.70±17.41 | 0.8085 |
| Spleen length/thickness | 2.79 ±0.62 | 2.60 ±0.62 | 2.67 ±0.41 | 2.90 ±0.70 | 2.81±0.58 | 0.5190 |
| Spleen volume, cm ³ | 899.10±497.70 | 987.70±577.8 | 782.10±556.60 | 709.0±433.50 | 786.50±415.20 | 0.4005 |
| Liver volume, cm ³ | 1023.00±317.50 | 1518.0±512.30 | 982.20±353.50 | 1100.0±348.10 | 1099.0±364.30 | <0.0001 |
| Liver/spleen volume | 2.42±2.32 | 1.41±0.59 | 1.69±1.01 | 2.19±2.40 | 2.30±4.06 | 0.5813 |

Data are mean ± standard deviation, n (%), or median (interquartile range).

WBC: White blood cell; PLT: Platelets; INR: International normalized ratio;

ALT: Alanine aminotransferase; AST: Aspartate aminotransferase; ALB: Albumin; TBIL: Total bilirubin; UREA: Urea; CRE: Creatinine.

Supplementary Table 4 Comparison of laboratory data and imaging parameters by Child stage of liver cirrhosis

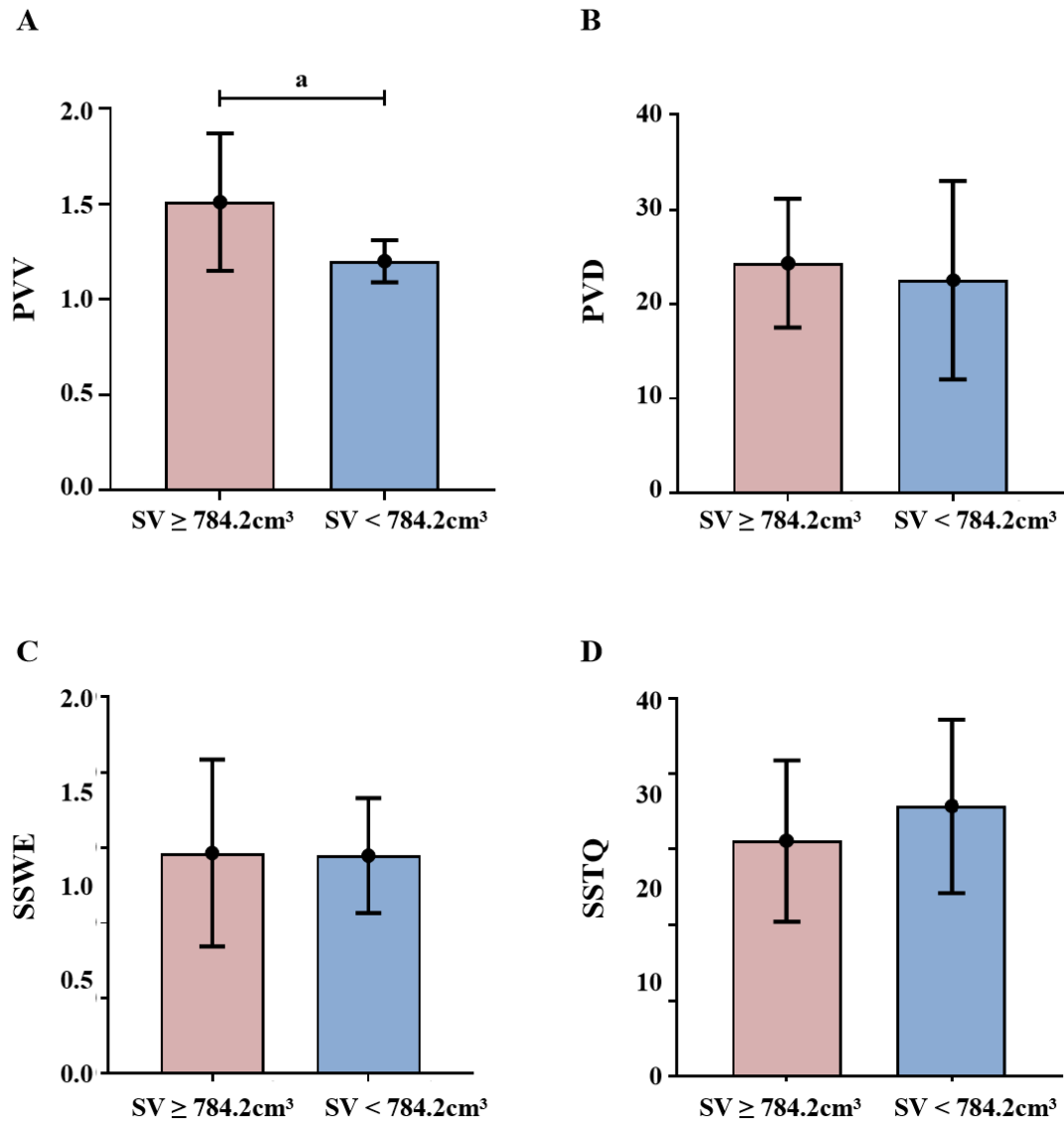
| | Child A (n=39) | Child B (n=92) | Child C (n=30) | P value |
|-----------------------------------|-------------------|-------------------|-------------------|------------|
| WBC, 10 ⁹ /L | 3.18±2.28 | 3.73±2.86 | 5.03±4.37 | <0.05 |
| PLT, 10 ⁹ /L | 91.84±78.57 | 73.73±61.22 | 73.30±62.42 | 0.3332 |
| INR | 1.25±0.15 | 1.55±1.50 | 1.70 ±0.36 | 0.2405 |
| ALT, U/L | 26.05±32.05 | 31.59±49.12 | 25.52±20.26 | 0.6907 |
| AST, U/L | 33.03±32.08 | 46.23±92.22 | 37.07±17.49 | 0.6024 |
| ALB, g/L | 43.14±46.60 | 31.69±5.00 | 30.48 ±6.45 | <0.05 |
| TBIL, µmol/L | 20.53±8.41 | 33.62±24.17 | 58.95±61.43 | <0.0001 |
| UREA, mmol/L | 4.82±2.15 | 8.68±13.92 | 6.20±3.39 | 0.1738 |
| CRE, µmol/L | 64.83±23.42 | 87.24±119.50 | 85.40±119.90 | 0.5499 |
| Spleen length, mm | 144.50±31.63 | 146.30±26.76 | 153.20±32.07 | 0.4643 |
| Spleen volume, cm ³ | 1176.00±373.40 | 1080.00±385.50 | 1181.00±489.50 | 0.5009 |
| Liver volume, cm ³ | 2.70±0.66 | 2.81±0.57 | 2.71±0.59 | 0.3806 |
| Liver/spleen volume | 2.28±2.59 | 2.03±2.97 | 2.06±2.08 | 0.8933 |

Data are mean ± standard deviation, n (%), or median (interquartile range).

WBC: White blood cell; PLT: Platelets; INR: International normalized ratio;

ALT: Alanine aminotransferase; AST: Aspartate aminotransferase; ALB:

Albumin; TBIL: Total bilirubin; UREA: Urea; CRE: Creatinine.



Supplementary Figure 1 Comparing spleen elasticity with different spleen volumes. The patients was divided in two groups based on the median splenic volume 784.2 cm³. A: Portal vein velocity (PVV); B: Portal vein diameter (PVD); C: Spleen shear wave elastography (SSWE); D: Spleen sound touch quantification (SSTQ) was used to compared in two groups. SV: Spleen volume. Quantitative data were presented as mean±SD. Two independent-sample t-test, aP <0.05.