

Supplementary materials

Figure 1. Computed tomography images of liver trauma based on the 2018 revised liver injury scale of the American Association for the Surgery of Trauma (AAST).

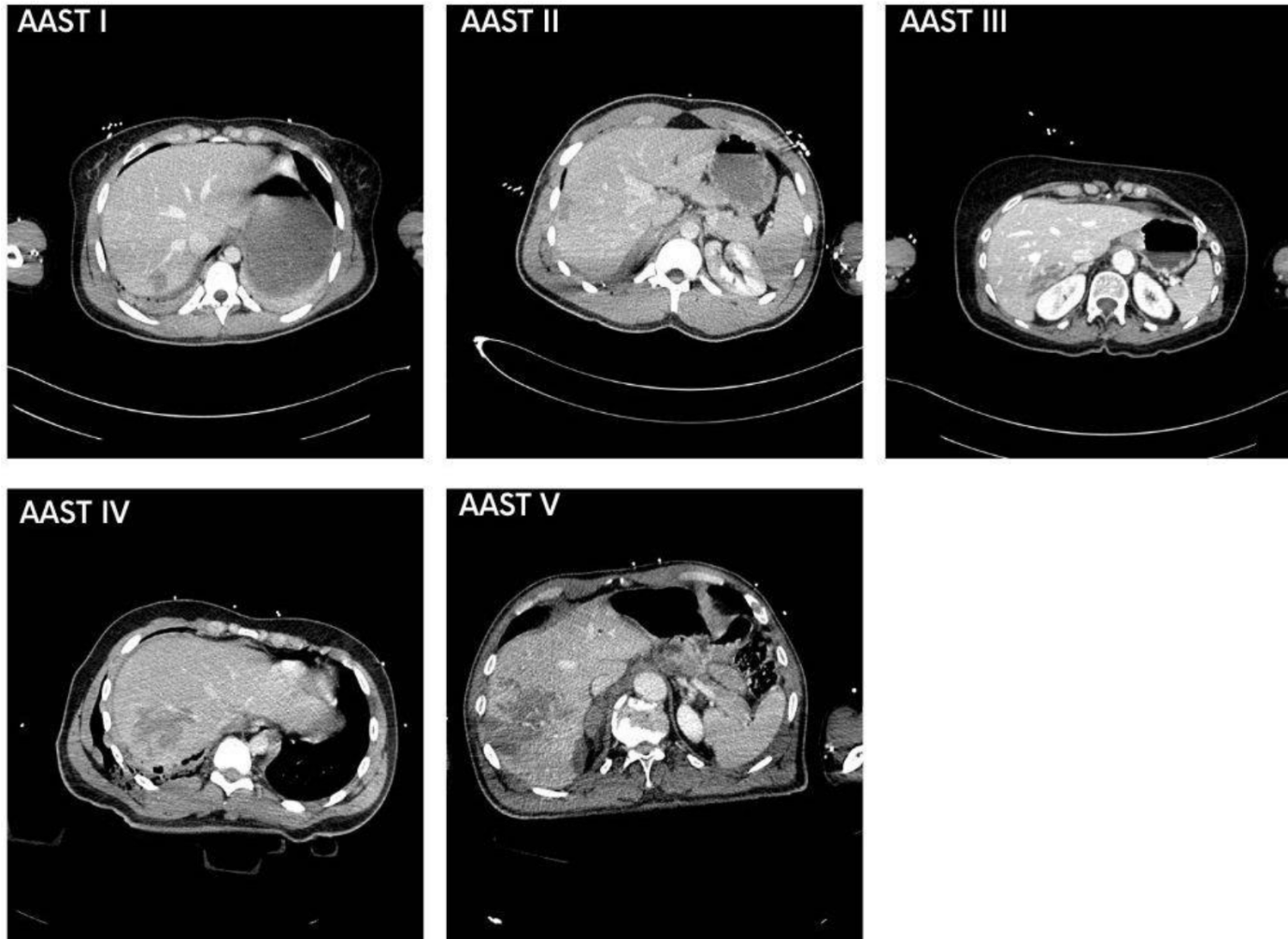


Table 1. American Association for the Surgery of Trauma (AAST) revised liver injury scale 2018

Grade	Type	Injury description
I	Haematoma	Subcapsular, <10% surface area
	Laceration	Capsular tear, <1% parenchymal depth
II	Haematoma	- Subcapsular, 10-50% surface area - Intraparenchymal, <10 cm in diameter
	Laceration	Capsular tear, 1–3 cm parenchymal depth, < 10 cm length
III	Haematoma	- Subcapsular, >50% surface area of ruptured subcapsular or parenchymal haematoma - Intraparenchymal >10 cm
	Laceration	Capsular tear, >3 cm parenchymal depth
	Vascular	Vascular injury with active bleeding contained within liver parenchyma
IV	Laceration	Parenchymal disruption involving 25–75% hepatic lobe or involves 1–3 contiguous segments
	Vascular	Vascular injury with active bleeding breaching the liver parenchyma into the peritoneum
V	Laceration	Parenchymal disruption involving >75% of hepatic lobe
	Vascular	Juxta-venous hepatic injuries; i.e. retro-hepatic vena cava/central major hepatic veins

Advance one grade for multiple injuries up to grade III.

Table 2. World Society of Emergency Surgery (WSES) injury scale 2020

Injury	WSES	AAST	Hemodynamic status
Mild	I	I-II	Stable
Moderate	II	III	Stable
Severe	III	IV-V	Stable
	IV	I-V	Unstable

AAST: American Association for the Surgery of Trauma organ injury scale

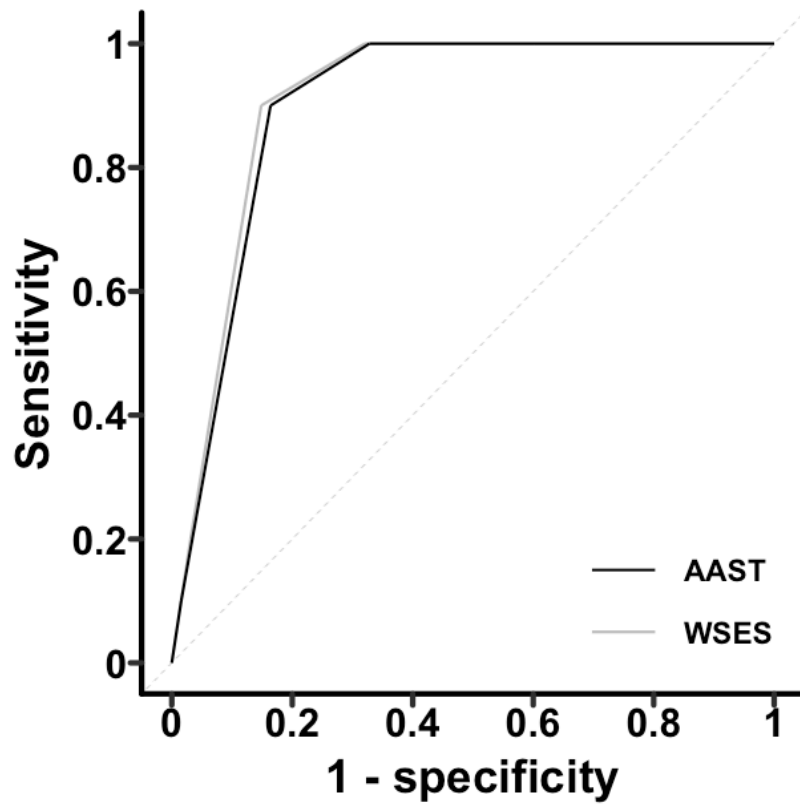


Figure 2. Receiver operating characteristics (ROC) curve of AAST and WSES. AAST discrimination 93% (95% CI 88-98), WSES discrimination 92% (95% CI 87-97). AAST vs WSES, $p=0.542$. AAST: American Association for the Surgery of Trauma organ injury score; WSES: World Society of Emergency Surgery organ injury score.

Table 3. Diagnostic accuracy of AAST and WSES cut-offs for death due to liver injuries and/or required liver-related interventions.

Parameter	Sensitivity	Specificity	NPV	PPV	Accuracy	TP	TN	FP	FN
AAST \geq III	1.00 (1.00-1.00)	0.71 (0.63-0.79)	1.00 (1.00-1.00)	0.20 (0.16-0.26)	0.73 (0.65-0.81)	8	80	32	0
AAST \geq IV	0.88 (0.63-1.00)	0.89 (0.83-0.95)	0.99 (0.97-1.00)	0.38 (0.52-0.55)	0.89 (0.83-0.94)	7	100	12	1
WSES \geq II	1.00 (1.00-1.00)	0.71 (0.61-0.79)	1.00 (1.00-1.00)	0.20 (0.16-0.25)	0.73 (0.64-0.80)	8	79	33	0
WSES \geq III	0.88 (0.63-1.00)	0.88 (0.81-0.93)	0.99 (0.97-1.00)	0.33 (0.22-0.50)	0.88 (0.82-0.93)	7	98	14	1

Data reported with 95% confidence interval. AAST: American Association for the Surgery of Trauma organ injury scale; WSES, World Society of Emergency Surgery organ injury scale; NPV, negative predictive value; PPV, positive predictive value; TP, true positive; TN, true negative; FP, false positive; FN, false negative.