

Role of TPE in ACLF

Reference key

Definition

Acute deterioration of underlying chronic liver disease usually precipitated by an acute event which can be hepatic or extrahepatic, which is associated with organ failure and high short term mortality. (EASL CLIF definition)

Acute hepatic insult characterised by jaundice (bilirubin > 5) coagulopathy (INR > 1.5) complicated with ascites and/or encephalopathy within 4 weeks in a patient with known or unknown chronic liver disease. (APASL definition)

CLIF OF scale

The Chronic Liver Failure-Consortium Organ Failure scale				
Organ system	Variable	Scale		
		1 point	2 points	3 points
Liver	Bilirubin (mg/dl)	<6.0	≥6.0 to <12.0	≥12
Kidney	Creatinine (mg/dl)	<1.5	≥2.0 to <3.5	≥3.5 or use of RRT
		>1.5 to <2.0		
Cerebral	HE grade (West Haven criteria)	0	I - II	III - IV or endotracheal intubation for HE
Coagulation	INR	<2.0	≥2.0 to <2.5	≥2.5
Circulation	MAP (mm Hg)	≥70	<70	Use of vasopressors
Respiration	PaO ₂ /FIO ₂	>300	>200 to ≤300	≤200
	SpO ₂ /FIO ₂	>357	>214 to ≤357	≤214 Or use of mechanical ventilation

ACLF grade as per CLIF OF scale

Acute decompensation	No organ failure
ACLF grade 1	Single renal failure Non renal OF with renal dysfunction or cerebral dysfunction
ACLF grade 2	Any 2 OF
ACLF grade 3a	3 OF
ACLF grade 3b	4 to 6 OF

AARC scoring system					
Points	Total bilirubin (mg/dl)	HE grade	INR	Lactate (mmol/L)	Creatinine (mg/dl)
1	<15	0	<1.8	<1.5	<0.7
2	15-25	I-II	1.8-2.5	1.5-2.5	0.7-1.5
3	>25	III-IV	>2.5	>2.5	>1.5

AARC-ACLF grade according to AARC scores	
ACLF grade	AARC scores
1	5-7
2	8-10
3	11-15

MELD sodium score

<https://www.mdcalc.com/calc/1754/meldna-meld-na-score-liver-cirrhosis>

CTP score

<https://www.mdcalc.com/calc/340/child-pugh-score-cirrhosis-mortality>

CLIF C ACLF score

<https://www.mdcalc.com/calc/10240/clif-c-aclf-acute-chronic-liver-failure>

Volume of PLEX

Estimated Plasma volume calculation

$$0.065 \times \text{bodyweight} \times (1 - \text{hematocrit})$$

70 kg – 2.5 litres

Low volume < one time EPV

Standard volume 1.5 to 2 times EPV

High volume 3-5 times EPV

Adverse events related to PLEX

Hypocalcemia related symptoms

local bleeds at the site of central venous line insertion,

line-related sepsis,

fluid overload or depletion,

vasovagal episodes,

TRALI

allergic or anaphylactic reaction to plasma transfusion