

Table 1. Characteristics of patients with ACLF at waitlist registration, according to etiology of liver disease

	NASH (n=4,191)	ALD (n=7,634)	HCV (n=8,772)	p-value
Age (median, IQR)	60 (53 - 65)	53 (46 - 59)	55 (46 - 60)	< 0.001
Male, n (%)	2,043 (48.7%)	5,566 (73.0%)	6,319 (72.0%)	< 0.001
Race/Ethnicity, n (%)				< 0.001
Caucasian	3,164 (75.5%)	5,708 (74.8%)	5,409 (61.6%)	
African-American	170 (4.1%)	380 (4.9%)	1,523 (17.4%)	
Hispanic	701 (16.7%)	1,288 (16.9%)	1,525 (17.4%)	
Asian	92 (2.2%)	118 (1.6%)	199 (2.3%)	
HCC, n (%)	78 (1.9)	107 (1.4)	402 (4.6)	<0.001
Ascites, n (%)				<0.001
Slight	1,859 (44.3%)	3,224 (42.3%)	3,975 (45.3%)	
Moderate	2,170 (51.8%)	4,180 (54.8%)	4,491 (51.2%)	
Hepatic Encephalopathy, n (%)				<0.001
Slight (Grade 1-2)	2,642 (66.5%)	5,148 (67.5%)	5,789 (65.9%)	
Moderate (Grade 3-4)	726 (17.3%)	1,535 (20.1%)	1,678 (19.1%)	
MELD-Na score (median, IQR)	31 (26-35)	32 (28-37)	31 (25-36)	< 0.001
Creatinine (median, IQR)	1.3 (1.0 - 2.4)	1.2 (1.0 - 2.5)	1.1 (1.0 - 2.1)	< 0.001
Bilirubin (median, IQR)	2.8 (1.5 - 6.4)	3.9 (1.9 - 11.4)	2.7 (1.5 - 6.9)	< 0.001
INR (median, IQR)	1.5 (1.3 - 2.0)	1.6 (1.3 - 2.3)	1.5 (1.3 - 2.0)	< 0.001
Albumin (median, IQR)	3.0 (2.5 - 3.6)	3.1 (2.6 - 3.5)	2.9 (2.5 - 3.4)	0.002
Sodium (median, IQR)	136 (133 - 139)	136 (132 - 138)	136 (132 - 139)	0.115
Dialysis, n (%)	1,183 (28.2%)	2,154 (28.3%)	2,387 (27.2%)	0.014
Diabetes, n (%)	2,330 (56.0%)	1,473 (19.6%)	2,574 (29.7%)	< 0.001
Body mass index (median, IQR)	32.9 (25.5-37.1)	27.8 (24.4-32.3)	27. (24.3-31.9)	
Organ Failures, n (%)				
Liver failure	1,364 (32.5%)	3,484 (45.6%)	3,366 (38.4%)	< 0.001
Mechanical ventilation	246 (5.9%)	570 (7.5%)	641 (7.3%)	0.003
Circulatory failure	350 (8.4%)	783 (10.3%)	825 (9.4%)	0.009
Coagulation failure	1,164 (27.8%)	2,944 (38.6%)	3,065 (34.9%)	< 0.001
Renal failure	3,019 (72.0%)	4,748 (62.2%)	5,929 (67.6%)	< 0.001
Brain failure	726 (17.3%)	1,535 (20.1%)	1,678 (19.1%)	0.001
ACLF Grade, n (%)				
ACLF-1	2,513 (59.9%)	3,705 (48.5%)	4,824 (54.9%)	< 0.001
ACLF-2	1,040 (24.8%)	2,326 (30.5%)	2,188 (24.9%)	< 0.001
ACLF-3	628 (15.0%)	1,576 (20.6%)	1,746 (19.9%)	< 0.001

Table 2. Multivariable competing risks regression analysis regarding 28-day and 90-day waitlist mortality, among patients listed with ACLF

Variable	Reference	28-day waitlist mortality	90-day waitlist mortality
	HCV		
ALD		0.82 (0.75-0.89)	0.84 (0.78-0.91)
NASH		0.85 (0.76-0.96)	0.84 (0.77-0.92)
MELD-Na score		1.12 (1.11-1.13)	1.08 (1.08-1.09)
Age category	Age 18-49		
Age 50-59		1.39 (1.26-1.54)	1.35 (1.24-1.47)
Age 60-64		1.49 (1.32-1.69)	1.49 (1.34-1.65)
Age >=65		1.87 (1.63-2.12)	1.91 (1.71-2.14)
Male	Female	0.84 (0.77-0.91)	0.89 (0.79-1.01)
Race/ethnicity	White		
Black		0.91 (0.80-1.04)	1.15 (0.91 -1.44)
Hispanic		0.98 (0.89-1.09)	1.21 (1.05 -1.40)

Table 3. Multivariable Cox proportional hazards regression for probability of 90-day waitlist mortality among patients with ACLF at time of waitlist registration, according to etiology of liver disease

Variable	Reference	NASH	ALD	HCV
Years 2014-2017	Years 2005-2013	0.93 (0.81-1.08)	0.78 (0.70-0.88)	0.76 (0.67-0.85)
MELD-Na score		1.18 (1.17-1.20)	1.04 (1.03-1.05)	1.19 (1.18-1.20)
Age category	Age 18-49			
Age 50-59		1.52 (1.20-1.92)	1.39 (1.21-1.58)	1.25 (1.09-1.43)
Age 60-64		1.61 (1.16-2.05)	1.80 (1.53-2.14)	1.39 (1.18-1.64)
Age >=65		1.90 (1.49-2.42)	2.33 (1.95-2.79)	1.96 (1.61-2.38)
Male	Female	0.89 (0.77-1.03)	0.89 (0.79-1.01)	0.85 (0.76-0.95)
Race/ethnicity	White			
Black		0.72 (0.48-1.08)	1.15 (0.91 -1.44)	0.85 (0.76 -0.96)
Hispanic		0.75 (0.61-0.91)	1.21 (1.05 -1.40)	0.87 (0.76 -1.00)

Table 4. Multivariable Cox proportional hazards regression for probability of LT within 90 days among patients with ACLF at time of waitlist registration, according to etiology of liver disease

Variable	Reference	NASH	ALD	HCV
Years 2014-2017	Years 2005-2013	1.08 (0.99-1.17)	1.08 (1.02-1.14)	1.09 (1.02-1.16)
MELD-Na score		1.13 (1.12-1.14)	1.13 (1.12-1.14)	1.13 (1.12-1.14)
Age category	Age 18-49			
Age 50-59		1.09 (0.96 -1.23)	0.92 (0.87-1.00)	1.01 (0.93-1.08)
Age 60-64		0.95 (0.83-1.09)	0.96 (0.87-1.05)	0.98 (0.89-1.08)
Age >=65		1.05 (0.92-1.20)	0.91 (0.82-1.02)	0.87 (0.76-0.99)
Male	Female	1.12 (1.03-1.22)	1.11 (1.05-1.19)	1.12 (1.05-1.19)
Race/ethnicity	White			
Black		1.03 (0.84-1.27)	0.87 (0.76-0.99)	1.00 (0.93-1.09)
Hispanic		0.79 (0.69-0.88)	0.85 (0.79-0.93)	0.88 (0.81-0.96)