

Myostatin is associated with the presence and development of acute-on-chronic liver failure

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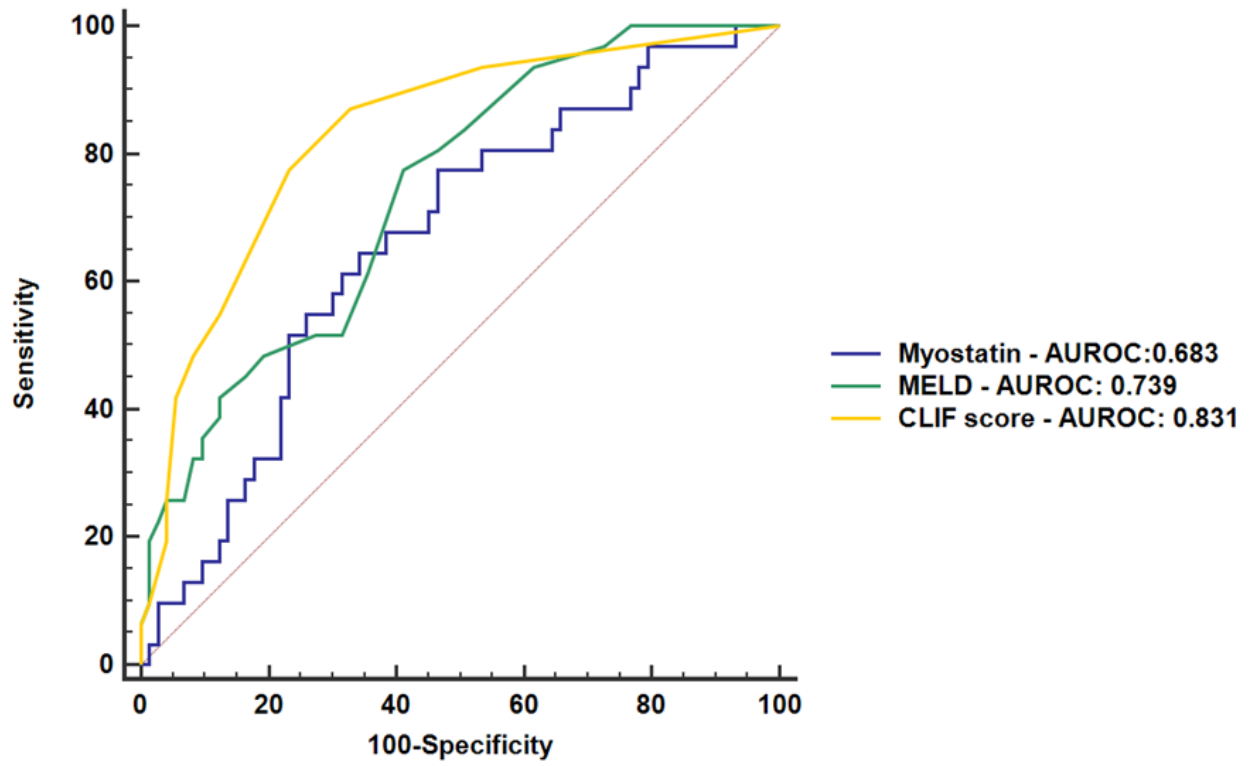


Fig. S1. Comparison of AUROC for myostatin, MELD and CLIF scores.

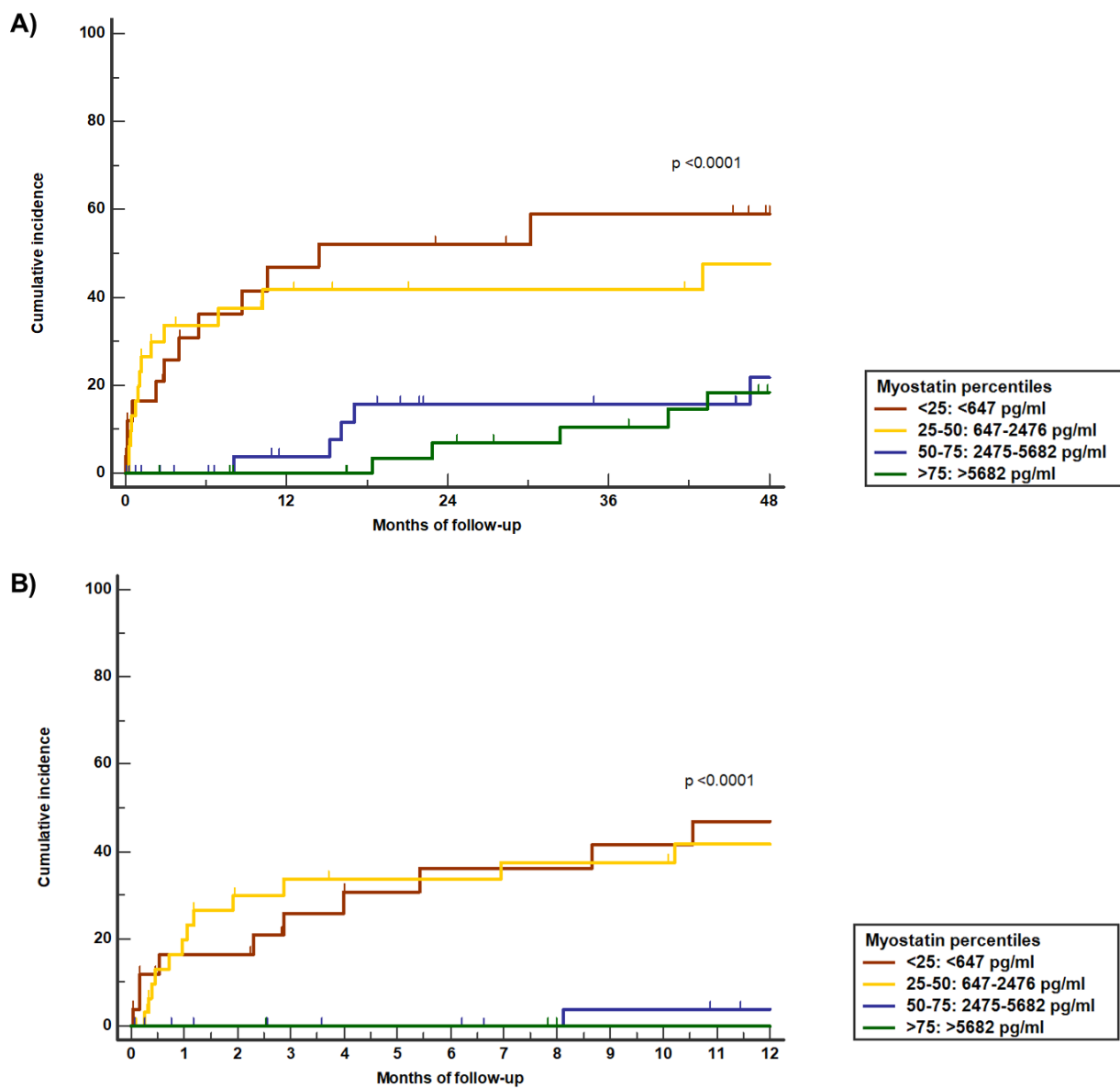


Fig. S2. Incidence of ACLF according to myostatin percentiles (A) and incidence of ACLF according to myostatin percentiles during first 12 months (B).

Table S1. Main characteristics of patients according to ACLF grade				
	ACLF (n = 48)	ACLF 1 (n = 6)	ACLF 2 (n = 15)	ACLF 3 (n = 27)
Age (years)	51 ± 15	51 ± 16	53 ± 11	49 ± 16
Sex (F/M) (%)	46/54	67/33	40/60	44.4/55.6
MELD score	20 ± 9	16.8 ± 3.7	18.3 ± 10	21.9 ± 9.3 [#]
MELD Na score	21 ± 8	19.3 ± 4.2	19.8 ± 9.5	22.4 ± 8.3
Myostatin (pg/ml)	984 (278-2624)	1009 (194-4341)	1025 (281-3064)	960 (318-2483)
PhA°	3.8 (3.3-5.0) 5.0 ± 1.0	3.4 (2.7-4.1) 3.6 ± 1.0	4.4 (3.3-5) 4.3 ± 0.9	3.8 (3.3-5.1) 4.0 ± 1.1
MAMC	19.4 ± 3.2	17 ± 1.7 [*]	19.1 ± 2.3	20 ± 3.6 [#]
Precipitants of acute decompensation (%)				
- Infection	62.5	50	60	66.7
- Bleeding	14.6	33.3	6.7	14.8
- No identified precipitant	8.3	-	6.7	11.1
- Other	14.6	16.7	26.7	7.4
LT n (%)	10.4	1 (16.7)	4 (26.7)	0 (0)
Death (%)	79.2	5 (83.3)	10 (66.7)	23 (85.2)
<p>Data presented as mean ± SD in variables with normal distribution, and median (p25-p75) in variables with non-normal distribution.</p> <p>[*]Difference between groups ACLF1 vs ACLF2 (p < 0.05)</p> <p>[#] Difference between groups ACLF1 vs ACLF3 (p < 0.05)</p> <p> Difference between groups ACLF2 vs ACLF3 (p < 0.05)</p> <p>Student' T test, Mann-Whitney's U and Chi² test</p>				

Table S2. Characteristics according to sex

	Male (n = 69)	Female (n = 117)
Age (years)	52.2 ± 11.2	54.2 ± 15.4
Etiology of cirrhosis (%)		
-HCV	24.6	35*
- NASH / cryptogenic	24.6	17.9
- Autoimmune hepatitis	5.8	16.2
- Alcohol	26.1	1
- Primary biliary cholangitis	2.9	13.7
- Overlap syndrome	5.8	9.4
- Other	10.2	6.8
Child-Pugh (%)		
- A	23.2	34.2 *
- B	30.4	35.0
- C	46.4	30.8
Child-Pugh points	8.5 ± 2.4	7.9 ± 2.5
MELD score	17 ± 9	13.5 ± 6 *
MELD Na score	19 ± 9	15 ± 7*
Complications (%)		
- Ascites	73.9	56.0*
- Hepatic encephalopathy	53.6	41.8
Total bilirubin (mg/dL)	2.7 (1.7-5.6)	2 (1.2-3.8)*
Albumin (mg/dL)	3.2 ± 0.8	3.2 ± 0.7
Creatinine (mg/dL)	1.4 ± 1.3	1 ± 0.7*
INR	1.4 ± 0.4	1.4 ± 0.4
Sodium (mmol/l)	136 ± 6	137 ± 6
Myostatin (pg/ml)	1574 (469-4915)	2913 (1021-5899)
PhA°	4.6 ± 1.2	4.6 ± 1.1
MAMC	21.7 ± 3.8	20.3 ± 4.2*
HGS	24 (13.8-28.5)	12 (8.6-16.6)*
TSF	18 (12-24)	21 (16.2-26)*
ACLF (%)	37.7	19.0*
Acute decompensation (%)	27.5	41.0
Events of decompensation (%)		
1	65	65
2	15	27
3	5	6
4	4	2
LT (%)	21.4	14.2
Death (%)	42	30.8

* p < 0.05

Data presented as mean ± SD in variables with normal distribution, and median (p25-p75) in variables with non-normal distribution. Student' T test, Mann-Whitney's U and Chi² test

Table S3. Description of studies evaluating myostatin			
	<i>Ruiz-Margáin A. et al.</i> (n = 186)	<i>Nishikawa H et al.</i> (n = 198)	<i>Skladany L et al.</i> (n = 355)
Age	53.4 ± 14	67.5 (22.6–89.8)	56 (45-61)
Country	Mexico	Japan	Slovakia
Child-Pugh A/B/C (n)	56/62/68	123/72/3	-/155/199
Hand-grip strength general men/women	14.3 (10-19.3) 24/12	N/A N/A	N/A 28.5/17.6
Mid-arm circumference (cm) general men/women	20.8 ± 4.1 21.7/20.3	N/A N/A	N/A 27/25
Serum myostatin (pg/mL): general men/women Child-Pugh A/B/C	2476 (647-5682) 1574/2913 5047/2269 /943	2994.4(578- 12897) 3419.6/2662.4 2726/3615/3615	N/A 1959/1790 N/A
Mortality general (%) men/women (%)	34.9 42/30.8	N/A	N/A 42.9/40.8
Follow-up (days) general men/women	638 334/821	1587 N/A	N/A 248/256
Data presented as mean ± SD and median (p25-p75)			