

**ALF**

A	Adrenal insufficiency (AI)		No adrenal insufficiency (No AI)		p-value (AI vs No AI)
	all	thereof with GC	all	thereof with GC	
	absolute (%)	absolute (%)	absolute (%)	absolute (%)	
<b>Vascular hypotension (at baseline)</b>					
<b>BL &lt; 387 nmol/L (CLIA)</b>	6 (54.5)	3 (27)	9 (50)	3 (16.7)	0.81
BL <275 nmol/L (CLIA)	4 (80)	2 (40)	11 (45.8)	8 (33.3)	0.16
BL <414 nmol/L (CLIA)	7 (46.7)	3 (20)	8 (57.1)	7 (50)	0.57
peak cortisol <550 nmol/L (CLIA)	1 (50)	0 (0)	14 (53.8)	11 (42.3)	0.92
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	3 (60)	3 (60)	11 (47.8)	7 (30.4)	0.62
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	2 (100)	2 (100)	12 (46.2)	8 (30.8)	0.14
<b>BL &lt;230 nmol/L (LC-MS)</b>	3 (60)	1 (20)	7 (46.7)	5 (33.3)	0.6
BL <275 nmol/L (LC-MS)	4 (40)	2 (20)	5 (55.6)	4 (44.5)	0.5
BL <414 nmol/L (LC-MS)	5 (41.7)	2 (16.7)	4 (57.1)	4 (57.1)	0.52
<b>Renal failure (at baseline)</b>					
<b>BL &lt; 387 nmol/L (CLIA)</b>	8 (80)	3 (30)	17 (89.4)	5 (26)	0.48
BL <275 nmol/L (CLIA)	4 (80)	2 (40)	20 (83.3)	9 (37.5)	0.86
BL <414 nmol/L (CLIA)	10 (66.7)	3 (20)	14 (100)	8 (57.1)	<b>0.02</b>
peak cortisol <550 nmol/L (CLIA)	1 (50)	0 (0)	23 (88.5)	11 (42.3)	0.13
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	5 (100)	3 (60)	19 (82.6)	8 (34.8)	0.31
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	2 (100)	2 (100)	22 (84.6)	9 (34.6)	0.55
<b>BL &lt;230 nmol/L (LC-MS)</b>	3 (60)	1 (20)	14 (93.3)	5 (33.3)	0.07
BL <275 nmol/L (LC-MS)	8 (80)	3 (30)	8 (88.9)	4 (44.5)	0.6
BL <414 nmol/L (LC-MS)	9 (75)	3 (25)	7 (100)	4 (57.1)	0.15
<b>Ascites (at baseline)</b>					
<b>BL &lt; 387 nmol/L (CLIA)</b>	5 (50)	2 (20)	11 (58)	2 (10.5)	0.68
BL <275 nmol/L (CLIA)	2 (40)	1 (20)	14 (58.3)	4 (16.7)	0.45
BL <414 nmol/L (CLIA)	10 (66.7)	2 (13.3)	6 (42.8)	3 (21.4)	0.20
peak cortisol <550 nmol/L (CLIA)	1 (50)	0 (0)	14 (53.8)	5 (19.2)	0.92
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	4 (80)	2 (40)	11 (47.9)	3 (13.1)	0.19
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	1 (50)	1 (50)	14 (53.9)	4 (15.4)	0.92
<b>BL &lt;230 nmol/L (LC-MS)</b>	2 (40)	0 (0)	9 (64)	3 (21.4)	0.35
BL <275 nmol/L (LC-MS)	6 (60)	1 (10)	5 (55.6)	2 (22.2)	0.85
BL <414 nmol/L (LC-MS)	7 (58.3)	1 (8.3)	4 (57.2)	2 (28.6)	0.96

**B**

Secondary infection	AI			No AI			p-value (AI vs. no AI)
	all	thereof with GC	p-value (GC vs no GC)	all	thereof with GC	p-value (GC vs no GC)	
	absolute (%)	absolute (%)		absolute (%)	absolute (%)		
<b>BL &lt; 387 nmol/L (CLIA)</b>	1 (11)	1 (11)	0.284	5 (35.7)	4 (21)	<b>0.0015</b>	0.36
BL <275 nmol/L (CLIA)	0 (0)	0 (0)	-	8 (33.3)	6 (25)	<b>0.003</b>	0.13
BL <414 nmol/L (CLIA)	2 (13.3)	1 (6.7)	0.288	6 (42.9)	5 (35.8)	0.086	0.08
peak cortisol <550 nmol/L (CLIA)	0 (0)	0 (0)	-	8 (30.8)	6 (23.1)	<b>0.025</b>	0.35
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	2 (40)	2 (40)	0.136	6 (26.1)	4 (17.4)	0.057	0.53
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	1 (50)	1 (50)	-	7 (26.9)	5 (19.2)	<b>0.017</b>	0.49
<b>BL &lt;230 nmol/L (LC-MS)</b>	0 (0)	0 (0)	-	6 (40)	5 (33.3)	<b>0.0005</b>	0.13
BL <275 nmol/L (LC-MS)	3 (30)	2 (20)	0.098	4 (44.4)	4 (44.4)	<b>0.003</b>	0.52
BL <414 nmol/L (LC-MS)	3 (25)	2 (16.7)	0.054	4 (57.1)	4 (57.1)	<b>0.008</b>	0.16

ACLF

C	Adrenal insufficiency (AI)		No adrenal insufficiency (No AI)		p-value (AI vs. No AI)
	all absolute (%)	thereof with GC absolute (%)	All absolute (%)	thereof with GC absolute (%)	
<b>Vascular hypotension (at baseline)</b>					
BL <399nmol/L (CLIA)	5 (42)	1 (8.3)	12 (57)	7 (33.3)	0.39
BL <275 nmol/L (CLIA)	2 (40)	0 (0)	16 (55.1)	11 (37.9)	0.53
BL <414 nmol/L (CLIA)	7 (43.75)	4 (25)	10 (58.8)	6 (35.3)	0.39
peak cortisol <550 nmol/L (CLIA)	4 (57.1)	2 (28.6)	14 (51.8)	9 (33.3)	0.8
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	8 (57.1)	5 (35.7)	10 (50)	6 (30)	0.68
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	4 (57.1)	2 (28.6)	13 (50)	8 (30.8)	0.74
<b>BL &lt; 250 nmol/L (LC-MS)</b>	3 (33.3)	0 (0)	11 (55)	6 (0.3)	0.28
BL <275 nmol/L (LC-MS)	3 (30)	0 (0)	11 (57.9)	7 (36.8)	0.15
BL <414 nmol/L (LC-MS)	6 (33.3)	2 (11.1)	8 (72.8)	5 (45.5)	<b>0.04</b>
<b>Renal failure (at baseline)</b>					
BL <399nmol/L (CLIA)	5 (41.7)	2 (16.7)	17 (81)	8 (38.1)	<b>0.02</b>
BL <275 nmol/L (CLIA)	1 (20)	1 (20)	22 (75.8)	13 (44.8)	<b>0.01</b>
BL <414 nmol/L (CLIA)	8 (50)	5 (31.25)	14 (82.4)	8 (47.1)	<b>0.048</b>
peak cortisol <550 nmol/L (CLIA)	5 (71.5)	3 (42.9)	18 (66.6)	11 (40.7)	0.81
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	12 (85.7)	7 (50)	11 (55)	7 (35)	0.06
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	7 (100)	4 (57.1)	15 (57.7)	9 (34.6)	<b>0.035</b>
<b>BL &lt; 250 nmol/L (LC-MS)</b>	3 (33.3)	1 (11.1)	14 (70)	8 (40)	0.06
BL <275 nmol/L (LC-MS)	3 (30)	1 (10)	14 (77.8)	9 (50)	<b>0.01</b>
BL <414 nmol/L (LC-MS)	9 (50)	4 (22.2)	8 (72.7)	6 (54.5)	0.23
<b>Ascites (at baseline)</b>					
BL <399nmol/L (CLIA)	11 (91.7)	2 (16.7)	18 (90)	6 (30)	0.88
BL <275 nmol/L (CLIA)	5 (100)	1 (20)	25 (86.2)	11 (37.9)	0.38
BL <414 nmol/L (CLIA)	15 (93.8)	5 (31.3)	15 (83.3)	7 (38.9)	0.35
peak cortisol <550 nmol/L (CLIA)	7 (100)	3 (42.9)	23 (85.2)	9 (33.3)	0.28
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	13 (92.9)	7 (50)	17 (85)	5 (25)	0.48
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	6 (85.7)	4 (57.1)	23 (88.4)	7 (26.9)	0.84
<b>BL &lt; 250 nmol/L (LC-MS)</b>	9 (100)	1 (11.1)	17 (85)	6 (30)	0.22
BL <275 nmol/L (LC-MS)	10 (100)	1 (10)	15 (83.3)	7 (38.9)	0.17
BL <414 nmol/L (LC-MS)	16 (88.9)	3 (16.7)	10 (90.9)	5 (45.5)	0.86
<b>Hepatic encephalopathy (at baseline)</b>					
BL <399nmol/L (CLIA)	7 (58)	2 (16.7)	19 (90.5)	7 (33.3)	<b>0.03</b>
BL <275 nmol/L (CLIA)	3 (60)	1 (20)	24 (82.7)	11 (37.9)	0.25
BL <414 nmol/L (CLIA)	11 (68.8)	4 (25)	15 (88.3)	7 (41.2)	0.17
peak cortisol <550 nmol/L (CLIA)	6 (85.8)	3 (42.9)	21 (77.8)	9 (33.3)	0.64
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	11 (78.6)	6 (42.9)	16 (80)	6 (30)	0.92
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	6 (85.7)	3 (42.9)	20 (77)	8 (30.8)	0.61
<b>BL &lt; 250 nmol/L (LC-MS)</b>	6 (66.7)	1 (11.1)	17 (85)	7 (35)	0.26
BL <275 nmol/L (LC-MS)	7 (63.6)	1 (9.1)	16 (89)	8 (44.5)	0.1
BL <414 nmol/L (LC-MS)	15 (83.3)	4 (22.2)	8 (82.7)	5 (45.5)	0.49

D

Secondary infection	AI			No AI			p-value (AI vs. no AI)
	all	thereof with GC	p-value (GC vs no GC)	all	thereof with GC	p-value (GC vs no GC)	
	absolute (%)	absolute (%)		absolute (%)	absolute (%)		
BL <399nmol/L (CLIA)	5 (41.7)	1 (8.3)	0.79	10 (47.6)	4 (19)	0.86	0.74
BL <275 nmol/L (CLIA)	1 (20)	0 (0)	0.56	10 (34.5)	6 (20.7)	0.23	0.52
BL <414 nmol/L (CLIA)	7 (43.8)	3 (18.8)	0.38	4 (23.5)	3 (17.6)	0.2	0.22
peak cortisol <550 nmol/L (CLIA)	4 (57.2)	2 (28.6)	0.66	7 (25.9)	4 (14.8)	0.31	0.12
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	7 (50)	4 (28.6)	0.59	4 (20)	2 (10)	0.48	0.07
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	2 (28.6)	2 (28.6)	0.15	9 (34.6)	4 (15.4)	0.44	0.76
<b>BL &lt; 250 nmol/L (LC-MS)</b>	2 (28.6)	0 (0)	0.49	10 (46.7)	4 (19)	0.86	0.38
BL <275 nmol/L (LC-MS)	3 (27.3)	0 (0)	0.52	6 (33.3)	4 (22.2)	0.32	0.73
BL <414 nmol/L (LC-MS)	6 (33.3)	2 (11.1)	0.42	3 (27.3)	2 (18.2)	0.62	0.73

## Stable cirrhosis

E	Adrenal insufficiency (AI)		No adrenal insufficiency (No AI)		p-value (AI vs. No AI)
	all absolute (%)	thereof with GC absolute (%)	All absolute (%)	thereof with GC absolute (%)	
<b>Vascular hypotension (at baseline)</b>					
<b>BL &lt; 399 nmol/L (CLIA)</b>	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <275 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <414 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
peak cortisol <550 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
<b>BL &lt; 250 nmol/L (LC-MS)</b>	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <275 nmol/L (LC-MS)	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <414 nmol/L (LC-MS)	0 (0)	0 (0)	0 (0)	0 (0)	-
<b>Renal failure (at baseline)</b>					
<b>BL &lt; 399 nmol/L (CLIA)</b>	1 (16.7)	0 (0)	0 (0)	0 (0)	0.54
BL <275 nmol/L (CLIA)	0 (0)	0 (0)	1 (16.7)	0 (0)	0.69
BL <414 nmol/L (CLIA)	1 (16.7)	0 (0)	0 (0)	0 (0)	0.54
peak cortisol <550 nmol/L (CLIA)	0 (0)	0 (0)	1 (16.7)	0 (0)	0.69
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	0 (0)	0 (0)	1 (16.7)	0 (0)	0.69
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	0 (0)	0 (0)	1 (16.7)	0 (0)	0.69
<b>BL &lt; 250 nmol/L (LC-MS)</b>	1 (20)	0 (0)	0 (0)	0 (0)	0.49
BL <275 nmol/L (LC-MS)	1 (25)	0 (0)	0 (0)	0 (0)	0.44
BL <414 nmol/L (LC-MS)	1 (25)	0 (0)	0 (0)	0 (0)	0.44
<b>Ascites (at baseline)</b>					
<b>BL &lt; 399 nmol/L (CLIA)</b>	4 (66.7)	0 (0)	2 (100)	0 (0)	0.35
BL <275 nmol/L (CLIA)	0 (0)	0 (0)	6 (85.7)	0 (0)	0.06
BL <414 nmol/L (CLIA)	4 (66.7)	0 (0)	2 (100)	0 (0)	0.35
peak cortisol <550 nmol/L (CLIA)	0 (0)	0 (0)	6 (85.7)	0 (0)	0.06
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	2 (100)	0 (0)	4 (66.7)	0 (0)	0.35
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	1 (100)	0 (0)	5 (71.4)	0 (0)	0.54
<b>BL &lt; 250 nmol/L (LC-MS)</b>	3 (60)	0 (0)	2 (100)	0 (0)	0.29
BL <275 nmol/L (LC-MS)	2 (50)	0 (0)	2 (100)	0 (0)	0.22
BL <414 nmol/L (LC-MS)	2 (50)	0 (0)	2 (100)	0 (0)	0.22
<b>Hepatic encephalopathy (at baseline)</b>					
<b>BL &lt; 399 nmol/L (CLIA)</b>	2 (25)	0 (0)	0 (0)	0 (0)	0.35
BL <275 nmol/L (CLIA)	0 (0)	0 (0)	2 (33.3)	0 (0)	0.54
BL <414 nmol/L (CLIA)	2 (33.3)	0 (0)	0 (0)	0 (0)	0.35
peak cortisol <550 nmol/L (CLIA)	0 (0)	0 (0)	2 (28.6)	0 (0)	0.54
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	0 (0)	0 (0)	2 (33.3)	0 (0)	0.35
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	0 (0)	0 (0)	2 (28.6)	0 (0)	0.54
<b>BL &lt; 250 nmol/L (LC-MS)</b>	2 (40)	0 (0)	0 (0)	0 (0)	0.29
BL <275 nmol/L (LC-MS)	2 (50)	0 (0)	0 (0)	0 (0)	0.22
BL <414 nmol/L (LC-MS)	2 (50)	0 (0)	0 (0)	0 (0)	0.22
<b>Secondary infection</b>					
<b>BL &lt; 399 nmol/L (CLIA)</b>	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <275 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <414 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
peak cortisol <550 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
Δ <250 nmol/L + BL >275 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
Δ <250 nmol/L + BL >414 nmol/L (CLIA)	0 (0)	0 (0)	0 (0)	0 (0)	-
<b>BL &lt; 250 nmol/L (LC-MS)</b>	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <275 nmol/L (LC-MS)	0 (0)	0 (0)	0 (0)	0 (0)	-
BL <414 nmol/L (LC-MS)	0 (0)	0 (0)	0 (0)	0 (0)	-

ACLF: acute-on-chronic liver failure; AI : adrenal insufficiency ; ALF: acute liver failure; BL: Baseline cortisol; CLIA: Chemoluminescence immunoassay ; Δ: delta cortisol; GC: glucocorticoid treatment, LC-MS: Liquid chromatography-mass spectrometry.

Numbers stand for absolute amount of patients with according clinical feature e.g. vascular hypotension, whereas numbers in parenthesis stand for percentage of patients.