

INTRODUCTION / OBJECTIVES

- Chronic kidney disease (CKD), defined as GFR <60ml/min/1.73m² for >3 months, is an increasingly common condition in cirrhosis
- The presence of CKD predisposes the patient to the development of AKI
- There is increased cardiovascular risks in the presence of CKD
- CKD also worsens the anemia that is usually present in cirrhosis
- How CKD affects inpatients with cirrhosis on a global scale is unknown
- Aim of the study was to To characterize on a global scale patients with cirrhosis and CKD and to assess its impact on patient outcomes.

MATERIAL & METHODS

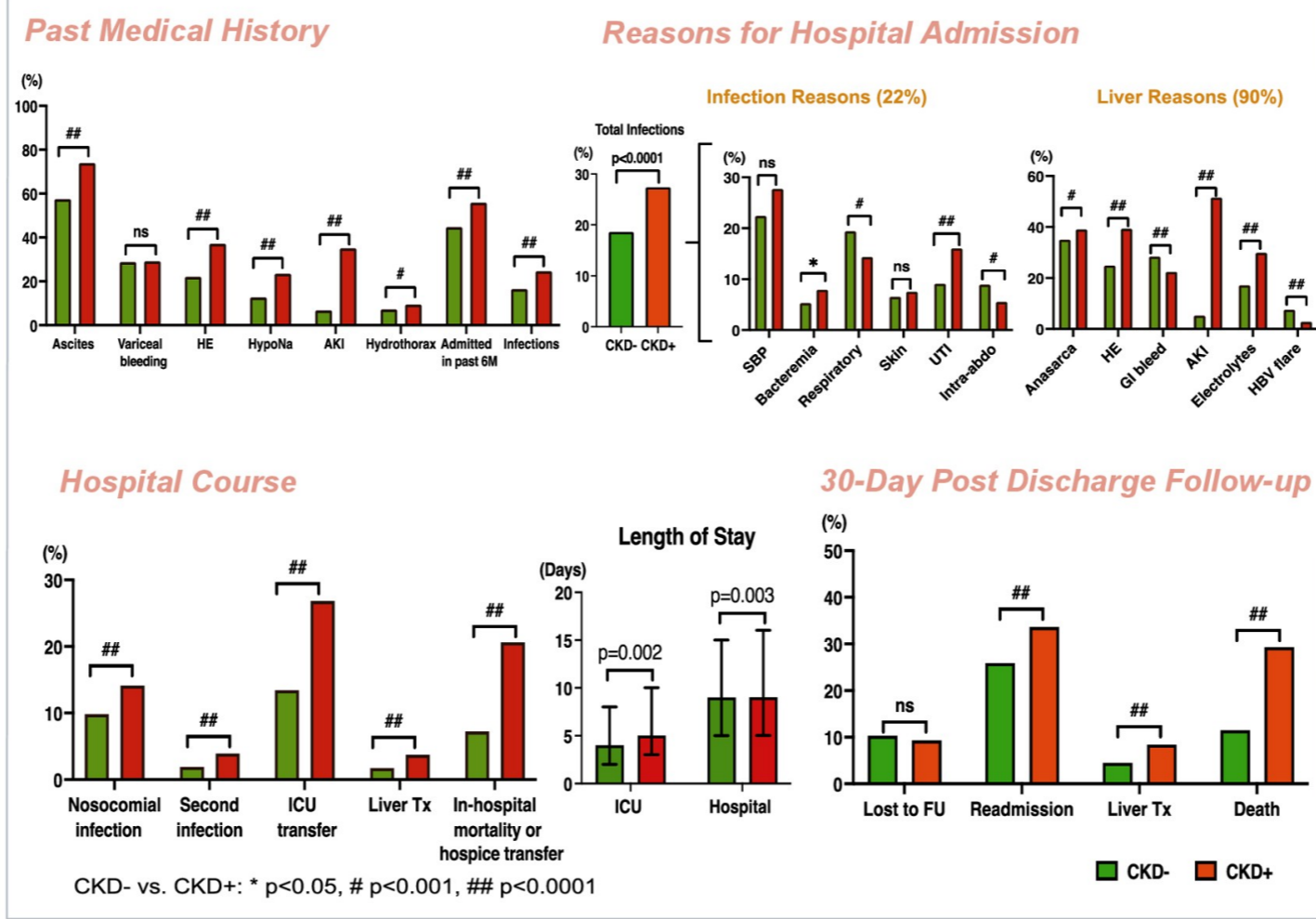
The CLEARED Consortium

- A global network
- 6 continents
- 35 countries
- 127 medical facilities
- Each centre contributed >50 but <100 non-electively admitted patients with cirrhosis

The Data Collected

- A global network
- 6 continents
- 35 countries
- 127 medical facilities
- Each centre contributed >50 but <100 non-electively admitted patients with cirrhosis

RESULTS



RESULTS

Laboratory Data

Parameter (Median [IQR])	CKD- (n=4307)	CKD+ (n=2733)	P value
Hemoglobin (g/L)	105 [84, 123]	95 [80, 112]	<0.0001
WBC, 10 ⁶ cells/mL	5.76 [3.69, 9.00]	7.13 [4.35, 11.43]	<0.0001
INR	1.50 [1.24, 1.89]	1.55 [1.30, 2.01]	<0.0001
Na, mmol/L	136 [132, 139]	133 [129, 138]	<0.0001
Creatinine, mg/dL	0.74 [0.60, 0.89]	1.70 [1.30, 2.50]	<0.0001
AST, U/L	63 [38, 119]	55 [34, 99]	<0.0001
ALT, U/L	36 [22, 61]	31 [20, 52]	<0.0001
Total Bilirubin, µmol/L	48 [23, 125]	45 [20, 124]	0.0316
Albumin, g/L	29 [25, 34]	28 [23, 32]	<0.0001
Child Pugh Score	9 [7, 11]	10 [8, 11]	<0.0001
MELD-Na Score	18 [12, 24]	25 [18, 30]	<0.0001

Regression Analysis for Factors Associated with CKD

Variable	P value	Odds Ratio (95% CI)
Age	<0.0001	1.05 (1.04, 1.05)
Male sex	<0.0001	0.64 (0.56, 0.72)
World Bank income group : L/LMIC vs. HIC	0.0003	1.34 (1.13, 1.59)
: UMIC vs. HIC		0.96 (0.84, 1.10)
MASH	<0.0001	1.49 (1.27, 1.76)
Diabetes	<0.0001	1.35 (1.17, 1.55)
Hypertension	<0.0001	1.47 (1.27, 1.70)
Prior overt HE	<0.0001	1.36 (1.20, 1.55)
Admitted in past 6Ms	<0.0001	1.29 (1.15, 1.46)
Prior LVP	<0.0001	2.01 (1.68, 2.41)
Admission MELD	<0.0001	1.13 (1.12, 1.14)

RESULTS

Patient Demographics

Parameter	CKD- (n=4307)	CKD+ (n=2733)	P value
Age (years, mean ± SD)	53.77±13.14	59.38±12.93	<0.0001
Male sex (n, %)	2892 (67.1)	1638 (59.9)	<0.0001
Income of country group (n, %)			<0.0001
: High income	801 (18.6)	609 (22.3)	
: Upper middle income	2123 (49.3)	1077 (39.4)	
: Lower middle/lower income	1383 (32.1)	1047 (38.3)	
Etiology (n, %)			
: Alcohol	1851 (43.0)	1142 (41.8)	0.3246
: MASH	537 (12.5)	686 (25.1)	<0.0001
: HBV	1023 (23.8)	345 (12.6)	<0.0001
: HCV	472 (11.0)	247 (9.0)	0.0095
: Autoimmune	477 (11.1)	239 (8.7)	0.0016
Co-morbidities (n, %)			
: Diabetes	1048 (24.3)	1040 (38.1)	<0.0001
: Hypertension	866 (20.1)	894 (32.7)	<0.0001
: Hyperlipidemia	453 (10.5)	493 (18.0)	<0.0001

SUMMARY

- The most prevalent condition associated with CKD development in cirrhosis is ascites
- Patients with CKD have a higher prevalence of MASH and its associated conditions
- They have a more complex past medical, and specifically liver cirrhosis history
- They are admitted with more infections and liver complications
- Their hospital course is more complicated with longer lengths of stay and higher mortality
- In the post-discharge period, they are re-admitted more often with a higher post-discharge mortality

CONCLUSION

- CKD in cirrhosis occurs mostly in patients with difficult-to control ascites, especially if they have features of the metabolic syndrome.
- Improved management of these associated conditions may improve patient outcomes.

Acknowledgement

- The CLEARED Consortium wishes to thank the patients, the study co-ordinators and the trainees who collected the data to make this study possible

The CLEARED Consortium

