patients transplanted with ACLF-3 and their 3-year post-LT survival increased over time: 2007–2009: 7 patients, 43% survival; 2010–2012: 20 patients, 60% survival; 2013–2015: 28 patients, 54% survival; 2016–2018: 36 patients, 83% survival (no significant difference in survival between the ACLF-3 and the non ACLF-3 group in the last period). This increase in the number of patients transplanted and in their post-LT three-year survival was not observed in the general population of patients transplanted without ACLF-3 (cf. Figure). A total of 12 ACLF-3 patients were transplanted with TAM scores>2. However, in the last period (2016–2018), in which both the number of patients transplanted with ACLF-3 and the post-LT survival were the highest, no patient was transplanted with a TAM score>2.

Conclusion: This study, which originates from the largest single center cohort of patients transplanted with ACLF-3, illustrates how gradually building a network of peripheral centers to refer critically ill cirrhotic patients to an expert ICU and LT center can lead to a dramatic increase in the number of patients transplanted with ACLF-3. It also shows that there is a learning curve when transplanting patients with ACLF-3 and that the implementation of the TAM score to help identify the optimal transplantability window at the time of organ proposal contributes to optimizing post-LT outcomes. The combination of these strategies can help centers increase the number of patients transplanted with ACLF-3 while reaching post-LT outcomes for these patients that are similar to those of non ACLF-3 patients.

OS011

Real-world evidence on long-term albumin treatment in patients with decompensated liver cirrhosis in Italy

Wim Laleman[1], Jonel Trebicka[2], Alastair O'Brien[3], Paolo Caraceni[4], Sandra Santos[5], Tatiana Vilchez[6], Kyle Rodney[7], Sofia Schweiger[8], Paolo Angeli[9]. *[1]University Hospitals Leuven, Department of Gastroenterology and Hepatology, Section of Liver and Biliopancreatic Disorders, Leuven, Belgium; [2]Goethe University Hospital Frankfurt, Translational Hepatology Department of Internal Medicine, Frankfurt, Germany; [3]University College London, Institute for Liver and Digestive Health, London, United Kingdom; [4]University of Bologna, Department of Medical and Surgical Science, Bologna, Italy; [5]CSL Behring, Lisbon, Portugal; [6]CSL Behring, Barcelona, Spain; [7]Adivo Associates LLC, California, United States; [8]Adivo Associates LLC, Buenos Aires, Argentina; [9]University of Padova, Department of Medicine, Unit of Internal Medicine and Hepatology, Padova, Italy*
Email: paolo.angeli54@gmail.com

Background and aims: Human albumin plays an important role in the management of patients with decompensated liver cirrhosis. Guidelines recommend short-term albumin in specific acute conditions, but clinical trial data have also shown benefits of long-term albumin (LTA) treatment. This study aimed to analyse real-world data on LTA treatment in patients with cirrhosis across Italy.
Method: Data from an independent audit platform was collected on patients with cirrhosis and ascites who received non-LTA, defined as standard medical treatment with diuretics and albumin only for acute indications, or LTA, with infusions at weekly intervals for ≥6 months. Audits were performed between 2018 and 2020, using institutional data and callbacks with healthcare professionals in Italy from 43 locations (hospitals, pharmacies and health units). Retrospective analysis was conducted on patient demographics, treatment dose and regimen, complication rates and hospitalisation outcomes.
Results: Data were captured for 6660 patients (non-LTA: 4305; LTA: 2355). Main etiologies of cirrhosis were alcoholic (33%), viral (29%) non-alcoholic steatohepatitis (30%) and other (7%). In LTA patients, the mean (range) treatment duration was 14 (6–36) months and initial dose was 87 (10–280) g/week, followed by 37 (10–60) g/week. The need for paracentesis (3.1 vs 6.2 per patient per year) and the incidence of refractory ascites (0.57 vs 0.71 per patient per year) were lower in LTA than in non-LTA patients. A lower incidence (episodes per patient per year) of other major complications was also reported in LTA patients: spontaneous bacterial peritonitis (0.19 vs 0.09), hepatorenal syndrome (0.28 vs 0.16) and hepatic encephalopathy (0.40 vs 0.31). Hospitalisations were 2.40 and 2.85 per patient per year in LTA and non-LTA groups, respectively. Differences were maintained when comparing patients within age groups (≤39, 40–59, ≥60 years).
Conclusion: These real-word data captured through an audit methodology indicate that Italian hepatologists consider LTA a valuable approach for the medical management of decompensated cirrhosis, as LTA is currently prescribed in a vast proportion of patients with ascites. Although the present study does not allow the comparison of the two groups, the lower incidence of paracentesis and complications observed in patients receiving LTA is consistent with the benefits documented by the ANSWER trial. Considering this, the cost-effectiveness of LTA and potential for reducing the economic burden upon healthcare systems should be assessed.

OS012

Impact of cirrhotic cardiomyopathy and severity of liver cirrhosis on the development of acute kidney injury

Simona Bota[1], Marcel Razpotnik[1], Philipp Wimmer[2], Michael Hackl[2], Gerald Lesnik[3], Hannes Alber[2], Markus Peck-Radosavljevic[1].
[1]Klinikum Klagenfurt am Wörthersee, Department of Internal Medicine and Gastroenterology (IMuG) and Emergency Medicine (ZAE), Klagenfurt, Austria; [2]Klinikum Klagenfurt am Wörthersee, Department of Internal Medicine and Cardiology (IMuK), Klagenfurt, Austria; [3]Klinikum Klagenfurt am Wörthersee, Institut for diagnostic and interventional Radiology, Klagenfurt, Austria
Email: bota_simona1982@yahoo.com

Background and aim: New criteria of cirrhotic cardiomyopathy (CCM) were published from a multidisciplinary consortium (Izzy et al. Hepatology 2019 Nov 11. doi: 10.1002/hep.31034) and define systolic dysfunction of the left ventricle as ejection fraction (EF) ≤50% and/or global longitudinal strain (GLS) <–18%, while the diastolic dysfunction is diagnosed when three of the following conditions are present: average E/e' >14, peak tricuspid regurgitation velocity >2.8 m/s, septal e'<7 cm/s, left atrial volume index >34 ml/m^2.
Our **aim** was to assess the influence of CCM, severity and etiology of liver cirrhosis on the development of acute kidney injury.
Method: Our prospective study included consecutive patients with liver cirrhosis without structural heart disease, arterial hypertension, HCC outside Milan criteria, portal vein thrombosis, presence of TIPS and with optimal acoustic echocardiography window. The patients were evaluated between 12/2018–11/2021 in our in- and out-patient Department. Conventional and speckle-tracking echocardiography (Vendor GE, EchoPAC PC software) were performed by a single investigator (EACVI TTE certified).
Acute kidney injury (AKIN) was defined according to the International Ascites Club as increase to serum creatinine of 0.3 mg/dL in <48 h or 50% increase in serum creatinine from baseline value within ≤3months.
The follow-up was performed until the patient was last seen or death.
Results: 412 cirrhotic patients were evaluated during the study period and 133 fulfilled the inclusion criteria and were included in the final analysis. The mean age of patients was 57.1 ± 10.2 years (60.1% males), 70.1% with alcoholic etiology and 48.1% with Child-Pugh A liver cirrhosis.
The median follow-up was 21 (0.5–36) months. Acute kidney injury was diagnosed in 26/133 (19.5%) of patients, while CCM (systolic and/or diastolic dysfunction) was present on 15% of patients.
The presence of acute kidney injury was correlated in univariate analysis with presence of CCM, Child-Pugh score, MELD score, alcoholic etiology of liver cirrhosis and prothrombin time (Table).
In multivariate logistic regression analysis only CCM and alcoholic etiology remained significantly associated with AKIN: CCM -OR = 13.6

(95% CI: 3.8–54.0), p = 0.0001 and alcoholic etiology-OR = 5.3 (95% CI: 1.1–26.3), p = 0.03.

	Spearman r correlation coefficient
Age	r = 0.089, p = 0.30
Male gender	r = 0.052, p = 0.54
BMI	r = 0.103, p = 0.23
Alcoholic etiology	**r = 0.186, p = 0.03**
Spleen size	r = 0.082, p = 0.34
Presence of CCM	**r = 0.323, p = 0.0001**
Child-Pugh score	**r = 0.259, p = 0.002**
MELD score	**r = 0.237, p = 0.005**
Presence of portal hypertension	r = 0.107, p = 0.21
Albumin	r = –0.169, p = 0.06
Platelet count	r = 0.037, p = 0.67
Prothrombin time	**r = –0.197, p = 0.02**

Conclusion: The presence of CCM is a strong predictor of acute kidney injury development among cirrhotic patients.

Non-invasive assessment of liver disease except NAFLD

OS013

Association of long term methotrexate therapy with liver fibrosis markers: a multi-centre prospective case-control study

Edmond Atallah[1,2], Jane Grove[1,2], Colin Crooks[1,2], Esther Burden-teh[3], Ruth Murphy[4], Sulleman Moreea[5], Abhishek Abhishek[6], Kelsey Jordan[7], Aftab Ala[8], David Hutchinson[9], Richard Aspinall[10], Guruprasad Aithal[1,2]. *[1]University of Nottingham, Nottingham Digestive Diseases Centre, School of Medicine, Nottingham, United Kingdom; [2]Nottingham University Hospitals NHS Trust and the University of Nottingham, National Institute for Health Research (NIHR) Nottingham Biomedical Research Centre, Nottingham, United Kingdom; [3]University of Nottingham, Centre of Evidence Based Dermatology, School of Medicine, Nottingham, United Kingdom; [4]Sheffield Dermatology Research, University of Sheffield, Sheffield, United Kingdom; [5]Bradford Teaching Hospitals NHS Foundation Trust, Bradford, United Kingdom; [6]Nottingham University Hospitals NHS Trust Queen's Medical Centre Campus, United Kingdom; [7]Brighton and Sussex University Hospitals NHS Trust, Brighton, United Kingdom; [8]Royal Surrey County Hospital, Surrey, United Kingdom; [9]Royal Cornwall Hospitals NHS Trust, Cornwall, United Kingdom; [10]Portsmouth Hospitals University NHS Trust, Portsmouth*
Email: edmond.atallah@nottingham.ac.uk

Background and aims: Incidence of acute drug-induced liver injury due to methotrexate (MTX) reduces significantly after the first year of treatment. However, decompensated cirrhosis attributed to MTX accounts for 0.07% of patients listed/transplanted in the USA. We evaluated the risk of long-term MTX therapy on liver fibrosis prospectively in a case-control study.
Method: Between 2014–2021, adult patients diagnosed with Rheumatoid Arthritis (RA) or Psoriasis (PS) were recruited prospectively from six UK sites. Patients on MTX for ≥6 months were defined as cases, whereas those with RA or PS for ≥2 years who never received MTX were controls. All patients underwent full liver profile, enhanced liver fibrosis (ELF) markers, and transient elastography (TE). Multivariate analysis was performed using logistic regression and results were presented as adjusted odds ratio (OR) and 95% confidence interval.
Results: Of 999 patients included (mean age 60.8 ± 12 years, 622 females (62.3%)), 976 had valid TE values; 149 (15.3%) had liver stiffness ≥7.9 KPa. Of 892 with available ELF, 262 had ELF score ≥9.8 (29.4%). Age and BMI were independently associated with elevated liver stiffness and ELF. Diabetes was associated with significant fibrosis defined by liver stiffness ≥7.9 KPa, OR = 3.21 (1.96–5.21), p < 0.001. But, neither MTX cumulative dose nor duration of exposure was associated with elevated liver stiffness [OR = 1.02 (0.93–1.12) and 1.00 (0.99–1.0), respectively] and ELF score [OR = 1.06 (1.0–1.12) and 1.00 (0.99–1.0), respectively]. Regular use of non-steroidal anti-inflammatory drugs was associated with ELF score ≥9.8, OR = 1.78 (1.22–2.60), p = 0.003.
Conclusion: Lack of association of MTX cumulative dose and duration with liver fibrosis in RA or PS indicates that the risk of liver fibrosis due to MTX itself might have been overestimated. The degree of inflammation in RA and PS may confound ELF as a marker to detect fibrosis.

Table: Demographic and phenotypic features for cases and controls

Characteristics	MTX group (n = 876)	Control group (n = 123)	p
Age (years), mean (SD)	61.6 (11.6)	55.6 (13.5)	**<0.001**
Female, n (%)	560 (63.9)	62 (50.4)	**<0.01**
Diagnosis, n (%)		55 (44.7)	**<0.001**
RA	615 (70.2)	67 (54.5)	
PS	241 (27.5)	1 (0.8)	
Both	20 (2.3)		
Type 2 Diabetes	100 (11.5)	21 (17.1)	**NS**
Hyperlipidaemia	225 (25.9)	28 (22.8)	**NS**
BMI (kg/m^2), mean (SD)	29.9 (6.7)	30.9 (7.5)	**NS**
Alcohol >14 units/week, n (%)	83 (9.5)	25 (20.3)	**<0.001**
Fibrosis markers			
TE groups, n (%)	731 (85.5)	96 (79.3)	**0.08**
Low <7.9	124 (14.5)	25 (20.7)	
High ≥ 7.9			
ELF groups, n (%)	562 (71.4)	68 (64.8)	**NS**
Low risk <9.8	202 (25.7)	34 (32.4)	
Moderate risk (≥9.8 to <11.3)	23 (2.9)	3 (2.9)	
High risk ≥11.3			

NS: Not significant.

OS014

Development and validation of a machine learning-based model for varices screening in compensated cirrhosis (CHESS2001): an international multicenter study

Yifei Huang[1], Jia Li[2], Tian-lei Zheng[3], Dong Ji[4], Yu Jun Wong[5], Hong You[6], Ye Gu[7], Musong Li[8], Lili Zhao[2], Shuang Li[2], Shi Geng[3], Na Yang[3], Guofeng Chen[4], Yan Wang[7], Manoj Kumar[9], Ankur Jindal[9], Qin Wei[8], Zhenhuai Chen[8], Yongning Xin[10], Zicheng Jiang[11], Xiaoling Chi[12], Jilin Chen[13], Mingxin Zhang[14], Huan Liu[14], Ming Lu[15], Li Li[15], Yong Zhang[16], Chunwen Pu[16], Deqiang Ma[17], Qibin He[18], Shanghong Tang[19], ChunYan Wang[19], Shiv Kumar Sarin[9], Xiaolong Qi[1]. *[1]The First Hospital of Lanzhou University, CHESS Center, Institute of Portal Hypertension, Lanzhou, China; [2]Tianjin Second People's Hospital, Department of Gastroenterology and Hepatology, Tianjin; [3]The Affiliated Hospital of Xuzhou Medical University, Artificial Intelligence Unit, Department of Medical Equipment, Xuzhou, China; [4]The Fifth Medical Center of Chinese PLA General Hospital, Department of Liver Diseases, Beijing, China; [5]Changi General Hospital, Duke-NUS Academic Clinical Program, SingHealth, Department of Gastroenterology and Hepatology, Singapore, Singapore; [6]Beijing Friendship Hospital, Capital Medical University, Liver Research Center, Beijing Key Laboratory of Translational Medicine in Liver Cirrhosis, National Clinical Research Center of Digestive Diseases, Beijing, China; [7]The Sixth People's Hospital of Shenyang, Portal*