Results Mean age was 75.3 (SD: 8.4) years old. 97 participants (75%) were female. Mean BMI was 22.9 kg/m² (SD: 2.7, range: 17.8 to 30.9) which strongly correlated with waist-line circumference (r^2 0.65, $p < 0.0001$) as shown in figure 1 (IDDF2021-ABS-0118 Figure 1). 40 participants (31%) had NAFLD detected by abdominal ultrasonography. 35 (27%) mild and 5 (4%) moderate to severe. Individuals with NAFLD had significantly higher BMI, waist circumference, ALT, γ -GTP, TG and HbA1c levels compared to those without NAFLD. HDL levels were also significantly lower in NAFLD individuals. After adjusting for age, gender, TG and HbA1c levels, a higher BMI was significantly associated with the presence of NAFLD (adjusted OR 1.38, 95%CI: 1.17 to 1.64).

Conclusions NAFLD was present in about 31% of non-drinking adults in this cohort, although most were classified as mild. As expected, a higher BMI was independently associated with the presence of NAFLD.

IDDF2021-ABS-0141 PREDICTION OF MORTALITY AMONG ACUTE-ON-CHRONIC LIVER FAILURE PATIENTS USING ARTIFICIAL NEURAL NETWORK ANALYSIS

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Background Despite the advances in understanding the pathophysiology and management of Acute-on-Chronic liver failure (ACLF), short-term mortality remains high. Though there have been numerous scoring systems to predict mortality, they lack predictive accuracy. We intend to study the accuracy of artificial neural network (ANN) analysis in predicting short mortality among such patients.

Methods Patients who were diagnosed as ACLF according to APASL criteria were included. Retrospective data of ACLF patients were collected, including the presence of decompensating events including ascites, encephalopathy, Gastrointestinal (GI) bleed, acute kidney injury (AKI) and infections. Basic blood investigations were recorded, including various prognostic scoring systems like CTP, MELD, CLIF-SOFA and AARC scores. A multi-layered perceptron ANN model with hidden nodes to make a prediction was constructed from 27

clinical and laboratory variables. The ANN was trained and validated internally using an adaptive moment estimation optimization algorithm. The primary endpoints were 30-day mortality.

Results One hundred patients were included with mean age of 46.04 ± 11.28 yrs. 88.4% were male. Most common acute precipitant of ACLF was alcohol followed by infections among 59.82% and 25% of patients respectively. DILI as acute cause was seen in 16.07%, while 7.1% had unknown cause. Commonest etiology of CLD was alcohol followed by viral among 77.27% and 7.95% of patients. 73.2% had overt HE. GI Bleed, AKI and infections were noted in 19.6%, 46.4% and 32.1% respectively. Mortality at the end of 30-days was 36.6%. Presence of AKI and GI bleed were significantly associated with mortality ($p < 0.05$). Baseline CLIF, AARC, CTP, MELD had area under ROC of 0.704, 0.767, 0.652 and 0.739 respectively in predicting 30-day mortality, while ANN had AUROC OF 0.915, having predictive accuracy of 94% outperforming the other prognostic scores.

Conclusions The artificial neural network had better accuracy in predicting short-term mortality among patients with ACLF. It has clinical utility in the management of ACLF, requiring further studies to validate its role.

IDDF2021-ABS-0143 GLOBAL EPIDEMIOLOGICAL TRENDS OF FUNGAL INFECTIONS IN CIRRHOSIS PATIENTS: A SYSTEMATIC REVIEW WITH META-ANALYSIS (FUNGDEMIC)

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Background Fungal infections (FIs) have serious implications, yet are poorly reported in cirrhosis patients. Therefore, we reviewed the global burden and trends of FIs among cirrhosis patients.

Methods PubMed, Ovid, Web of Science, and EMBASE were searched and full-text articles describing FIs and their prevalence among cirrhosis patients were reviewed. Studies from post-transplant, malignancy, and classical-immuno-deficiency patients were excluded. A random-effects meta-analysis was done to pool estimates of FIs (overall, and by mycological

Abstract IDDF2021-ABS-0143 Figure 1

Abstract IDDF2021-ABS-0143 Figure 2

type and infection-site) and their variation (I^2) was explored on moderator-analysis, meta-regression, and outlier-influential diagnostics. The risk of bias and asymmetry in estimates was assessed by a checklist and Eggers regression, respectively. (PROSPERO ID: CRD42019142782)

Results We included 38 studies in the review (34 with low-risk of bias and 4 with moderate-risk of bias, 31984 patients). Pooled-estimates of overall-FIs (17 studies), invasive fungal infections (IFIs; 17 studies), invasive-candidiasis (IC, 23 studies), and invasive-aspergillosis (IA, 16 studies) in cirrhosis were 10.2% (6.0–16.9), 9.5% (5.4–16.2), 4.0% (2.0–8.0) and 2.8% (1.5–5.3); respectively ($I^2 > 90\%$; each) (IDDF2021-ABS-0143 Figure 1A). Pooled estimates with 95 CI of fungal infections FIS in cirrhosis by mycological type of FI A and site Of FI B). Site of FIs in decreasing order of pooled-prevalence was pulmonary (3.4%), urinary tract (2.6%), bloodstream (1.9%), peritoneal (1.7%), esophageal (1.3%), and cerebral (0.9%) (IDDF2021-ABS-0143 Figure 1B). Pooled estimates with 95 CI of fungal infections FIS in cirrhosis by mycological type of FI A and site Of FI B). Geographic differences in these estimates were remarkable, with the highest burden of overall-FIs from Belgium, the USA, and India (IDDF2021-ABS-0143 Figure 2). Non-Albicans-Candida and Aspergillus infections have increased in cirrhosis patients over the last decade ($p < 0.05$). Intensive-care-unit (ICU)-admitted (10.8%) and acute-on-chronic liver failure (ACLF) patients (14.4%) had the highest prevalence of IFIs. Model for Endstage Liver Disease of cases, risk of bias score, and sample size across studies were the other predictors of variance in overall-FI-estimates. Diabetes, steroid and antibiotic exposure, and multiple organ failures were the common risk factors reported in patients with FIs.

Conclusions FIs impose a considerable burden and should not be neglected in cirrhosis patients. ACLF and critically ill cirrhosis patients in ICU should be considered as a host factor for defining IFIs.

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SELENIUM AND MERCURY LEVELS AND THE RISK OF NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD): INDICATIONS FROM THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY (NHANES 2017–2018)

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Background Selenium (Se) is a trace element with a potential antagonizing effect against mercury toxicity. Therefore the molar ratio of Se to Hg (normal value = 1) has been proposed to reflect the process of detoxification in the liver and used as an overall index for risk: benefit analysis, with the ratio > 1 indicating more benefit than risk, and ratio < 1 indicating vice versa.

Methods Subjects aged 20 years and above were recruited from NHANES 2017–2018; those with alcohol abuse, pregnancy and underlying liver dysfunction as diagnosed by physicians were excluded. Se intake was estimated using a food diary; Se serum level, tHg and MeHg levels were determined for the calculation of serum Se:tHg and Se:MeHg molar ratios. NAFLD risk was determined by control attenuation