NAFLD/NASH and Depression

Abstract IDDF2021-ABS-0008 Figure 2

aimed to assess the association between depression and NAFLD.

Methods A search of the literature was conducted on Medline and Embase databases to identify articles relating to NAFLD and depression. A meta-analysis of proportions was conducted using the generalized linear mix model with Copper Pearson intervals to stabilize the variance. Risk factors were analyzed using the odds ratios and mean difference for dichotomous and continuous variables respectively. To compare between the rate of depression between NAFLD (non-alcoholic fatty liver disease) and NASH (nonalcoholic steatohepatitis), the relative risks (RR) were calculated using the depression in NASH vs NAFLD as the ratio of the pooled proportion and confidence interval by the Katz-logarithmic method.

Results Of 1315 unique abstracts identified, 10 articles involving 2,041,752 NAFLD patients were included (IDDF2021-ABS-0008 Figure 1. Overall Prevalence of Depression in NAFLD). In a pooled analysis of studies, there was a significant relationship between the diagnosis of depression and NAFLD (OR: 1.29, CI: 1.02 - 1.64, $p=0.03$). The overall pooled prevalence of depression in NAFLD was 14.39% (CI: 8.89% - 22.45%). The prevalence of depression in nonalcoholic steatohepatitis (NASH) is 40.68% (CI: 25.11% - 58.37%), significantly higher than that in NAFLD at 14.39% (CI: 8.89% - 22.45%). Compared to NAFLD, patients with NASH had a significantly higher risk of depression (RR: 2.83, CI: 2.41 - 3.32, $p < 0.001$). Diabetes, BMI, female sex, history of smoking and history of lung disease were significant risk factors associated with depression in NAFLD patients and depression in NAFLD patients was an independent predictor of all-cause 1-year mortality.

Conclusions To our knowledge, this is the first meta-analysis to describe a positive association between NAFLD and

depression with an increasing rate of depression in NASH compared to NAFLD (IDDF2021-ABS-0008 Figure 2. Graphical Depiction of the Overall Results). However, more studies are required to observe the impact of depression and clinical outcomes in NAFLD.

IDDF2021-ABS-0010

A META-ANALYSIS AND META-REGRESSION BETWEEN LIVER RESECTION AND LIVER TRANSPLANT WITHIN MILIAN CRITERIA

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Background Hepatocellular carcinoma (HCC) is the dominant form of primary liver cancer and a leading cause of cancer globally. Liver transplantation (LT) confers excellent long-term survival outcomes, but its effectiveness is hampered by the dire shortage of liver allografts. Liver resection (LR) is a promising alternative due to favorable outcomes long-term outcomes. We sought to conduct a meta-analysis to compare the survival outcomes between LT and LR for HCC within the Milan criteria.

Methods Medline and Embase databases were searched for studies comparing survival data after LT and LR for patients with HCC within the MC. A meta-analysis of hazard ratios (HR) was conducted using the DerSimonian and Laird random-effects model to compare the overall survival (OS) and disease-free survival (DFS) between LR and LT for HCC.

Meta-regression was conducted with mixed effects and logit transform on proportional data.

Results 35 studies involving 18421 patients were included in the analysis. The OS (HR: 1.44, 95% CI: 1.14 - 1.81, $p < 0.01$), DFS (HR: 2.72, 95% CI: 2.18 - 3.39, $p < 0.01$) were significantly worse in LR compared to LT. There was no significant difference between regions. In a sensitivity analysis of uninodular tumours, there was no significant difference in OS (HR: 1.40, 95% CI: 0.91 - 2.17, $p = 0.13$) but significant in DFS (HR: 2.81, 95% CI: 2.06 - 3.83, $p < 0.01$). Meta-regression found a significant increase in mortality between LR and LT in patients with Child-Pugh C cirrhosis on DFS (beta: 0.2254, 95% CI: 0.043-0.4064, $p = 0.0147$) but there was no significant difference arising from different HCC aetiology. With enhance surveillance, there was no significant difference between LR and LT (HR: 1.15, 95% CI: 0.87 - 1.51, $p = 0.32$) but significantly different in DFS (HR: 1.70, 95% CI: 1.07 - 2.67, $p = 0.02$).

Conclusions The results present an up-to-date analysis of literature in LT vs LR. Optimal surveillance strategy post-resection/transplant remains in contention. Our analysis found no significant difference between LT and LR in overall survival with enhancing surveillance. Regional and income levels differences also exist within the literature, although without significant difference between groups

IDDF2021-ABS-0015

COMPARISON OF HONG KONG LIVER CANCER WITH BARCELONA CLINIC LIVER CANCER STAGING SYSTEMS IN A COHORT OF EGYPTIAN PATIENTS WITH HEPATOCELLULAR CARCINOMA

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Background Accurate staging information is necessary to determine the prognosis of patients with hepatocellular carcinoma (HCC) and to guide subsequent patient management.

Aim To compare the prognostic performance of Hong Kong Liver Cancer (HKLC) staging system with Barcelona Clinic Liver Cancer (BCLC) staging system in an Egyptian cohort of HCC patients.

Methods This was a retrospective study conducted at National Liver Institute, Menoufia University, Egypt, on 1015 HCC patients with full data recruited from our medical records during the last 10 years. BCLC and HKLC stages were determined and Kaplan-Meier survival analysis was used to compare patients' overall survival regarding treatment within BCLC staging system and within HKLC staging system. Performance and prognostic value of HKLC and BCLC staging systems were compared using area under the receiver operating characteristic curve (AUC).

Results A total of 1015 patients with HCC were recruited. There was a statistically significant difference in survival between different stages of BCLC as well as different stages of HKLC staging systems. Depending on Receiver operating characteristic (ROC) curves, the discriminatory ability to predict survival at 3 years of HKLC and BCLC staging systems were nearly the same (AUC= 0.667, 0.619 respectively). Out

Abstract IDDF2021-ABS-0015 Figure 1 Kaplan-Meier curve for overall survival for BCLC stages B&C cases regarding treatment within BCLC vs. within HKLC

of 459 patients at BCLC stages B and C, 123 patients were already treated beyond BCLC treatment options but matching the HKLC recommendations. Their median survival time was 14.6 months which was not inferior to the 336 patients treated according to BCLC classification with a median survival time of 12.3 months (p -value 0.001). (IDDF2021-ABS-0015 Figure 1)

Conclusions In our study, the HKLC classification had a slightly better prognostic performance compared to the BCLC staging system and might provide a survival benefit favoring expanding the treatment options for BCLC stages B and C HCC.

IDDF2021-ABS-0019

AN EPIDEMIOLOGICAL META-ANALYSIS ON THE WORLDWIDE PREVALENCE, RESISTANCE AND OUTCOMES OF SPONTANEOUS BACTERIAL PERITONITIS IN CIRRHOSIS

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Background Spontaneous bacterial peritonitis (SBP) is a common and potentially fatal complication of liver cirrhosis. This study aims to analyze the prevalence of SBP among liver cirrhotic patients according to geographical location and income level, and risk factors and outcomes of SBP.

Methods A systematic search for articles describing prevalence, risk factors and outcomes of SBP was conducted. A single-arm meta-analysis was performed using generalized linear mixed model (GLMM) with Clopper-Pearson intervals.

Results 99 articles, comprising a total of 5,861,142 individuals with cirrhosis were included (IDDF2021-ABS-0019 Figure 1. Summary of Findings). Pooled prevalence of SBP was found to be 17.12% globally (CI: 13.63% - 21.30%), highest in Africa (68.20%; CI: 12.17% - 97.08%), and lowest in North America (10.81%; CI: 5.32% - 20.73%; IDDF2021-ABS-0019 Figure 2. Summary of SBP prevalence by region). The