can be related to the effect of insulin resistance on hepatic cells and the associated fatty deposition inside the liver which lead to NAFLD as well as NASH⁸.

We also explored the effect of antiviral treatment, mainly Tenofovir (TDF) and Entecavir (ETV), on the renal function of CHB patients with T2DM. Results showed a significant decrease in glomerular filtration rate (eGFR) after taking antiviral medication, with median eGFR pre-treatment of 89 ml/min/1.73m² (IQR=14) for TDF and 84 ml/min/1.73m² (IQR=19) for ETV, and latest eGFR of 74 ml/min/1.73m² (IQR=19) for TDF, 70 ml/min/1.73m² for ETV (IQR=20). Results also showed a marked increase in serum creatinine levels as well for both groups pre and post-treatment with pre-treatment serum creatinine levels of 82 µmol/L (IQR=22) for TDF and 86 µmol/L (IQR=26) for ETV, and latest serum creatinine levels of 90 µmol/L for TDF (IQR= 21) and 95 µmol/L for ETV (IQR= 23). We then divided the levels of eGFR at different levels of HBA1C pre and post treatment with TDF for clinical significance, it showed a marked decrease in levels of eGFR especially in prediabetic groups, with pre-treatment median eGFR of 82 ml/min/1.73m² to median eGFR of 64 ml/min/1.73m² for post-treatment results.

Another perspective that should be re-considered is the role of nurse-led virtual clinics in the management of chronic hepatitis B patients. Many liver services in the UK have started to adopt the concept of virtual clinics in the follow-up of chronic hepatitis B patients for their cost-effectiveness and better compliance⁹. However, virtual clinics only deal with lab results and patient complaints for detection of disease flares and disease progression, but in term of screening and monitoring of metabolic risk factors such as increasing weight or elevation in blood pressure, this model can be considered ineffective.

Conclusion The effect of Metabolic syndrome and its risk factors on chronic hepatitis B patients is yet to be unravelled. The results showed a considerable number of patients with metabolic risk factors in our cohort of patients. It also presented alarming results related to the number of overweight patients and the ones with uncontrolled Type 2 Diabetes. Our study also confirmed our hypothesis of a significant and strong correlation between the degree of liver inflammation which is represented in elevated ALT levels and an Increase in both BMI and HBA1C. Even with our large study population, and the robust and strict exclusion criteria that have been implemented to strengthen this study, some limitations have been considered during the interpretation of its results. However, providing this data can give a rationale for health promotion to reduce cardiovascular risk among chronic hepatitis B patients. Dietitian, as well as Diabetes experts, should be involved in the follow-up of overweight/obese patients with elevated ALT levels to prevent disease progression and its associated complications. Given the high number of patients with uncontrolled diabetes, consideration for re-choice of antiviral drugs should be considered given the diabetic nephropathy these patients may have as well as the adverse effect they can be having from antiviral medications.

Clinicians should have a more active approach toward identifying and eliminating metabolic risk factors as well as cardiovascular risk in patients treated for chronic hepatitis B. Finally, comprehensive and longitudinal studies should be conducted for a better understanding of the extension of metabolic risk factors in our cohort and to accurately assess the associations between metabolic syndrome and chronic hepatitis B infection.

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PWE-39

A MULTIDISCIPLINARY APPROACH TO SYMPTOMATIC UMBILICAL HERNIA IN PATIENTS WITH ESLD OPTIMISES OUTCOME

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Introduction Symptomatic umbilical hernias can occur in up to 20% of patients with cirrhosis and end-stage liver disease. Management remains controversial due to a paucity of data. We aimed to determine the outcome and the factors predicting mortality following repair of symptomatic umbilical hernias in this group of patients.

Methods A retrospective review was performed for all patients with ESLD who presented to a specialist liver transplant centre with a symptomatic umbilical hernia requiring repair between 1998 and 2020. Overall survival was predicted using the Kaplan-Meier method, with censoring at transplantation. Logistic regression was used to determine predictors of 365-day mortality. Statistical significance set at p<0.05.

Results 111 patients with ESLD underwent hernia repair (emergency n=81, 73%). Median UKELD was 51 (40-63). Mortality at 30d and 365d was 4.5% and 9.9%, respectively. Prior to repair 28 patients (25%) were awaiting transplantation; 19 patients (17%) were transplanted during follow-up. Patients presenting as an emergency were more likely to have varices (13 v 0 p=0.018) and encephalopathy (29 v 3 p=0.005). TIPS was performed in 29 patients (26%). Age, pre-operative bilirubin, sodium, creatinine, prothrombin time, albumin and UKELD were no different when comparing use of TIPS (p>0.05). 44 patients (40%) required ITU admission. Decompensation occurred in 44 patients (40%), with variceal bleeding in 13 patients (12%) and encephalopathy in 33 patients (30%). Age>60 (HR 4.5 p=0.026) and ITU

admission (HR 10.5 $p=0.001$) predicted mortality within 365 days of surgery. The median length of stay was 11 days (0–304). TIPS predicted survival (OR 8.3, $p=0.019$). Median overall survival in the cohort was 64-months.

Conclusions Symptomatic umbilical hernias in patients with cirrhosis can be treated safely with acceptable outcomes in a specialist liver transplant centre, however this remains a high risk intervention. We attribute our outcomes to a multidisciplinary approach to management of patients with ESLD and an umbilical hernia. TIPS may improve short-term outcomes but further prospective trials are warranted.

PWE-40 IMPROVING CARE OF PATIENTS WITH HEREDITARY HAEMOCHROMATOSIS (HH) – A REVIEW FROM A LARGE DGH

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Introduction The joint BSG/BSH guidance on management of HH sets out clear criteria for the diagnosis and management of HH (Fitzsimons et al, 2018). Historically, patients with HH have been managed by both haematologists and gastroenterologists, mostly based on initial referral from primary care. Our aim was to assess adherence to the initial treatment pathway, and guidance on referral to gastroenterology.

Methods This was a retrospective study. A patient list was generated in June 2020 from patients with HH listed to attend Day Unit for regular venesection. Review of the electronic patient record was undertaken for each patient to obtain demographics, biochemical parameters at diagnosis, initial imaging, and subsequent management.

Results One hundred and twenty patient records were analysed. Seven records were excluded due to lack of data, leading to a final sample size of 113. Eighty were male, 33 were female with an average age of 59.3 (51.2 at diagnosis). Fifty-one percent of patients presented initially to haematology, with the remainder presenting to gastroenterology. Sixty-two percent of patients underwent weekly venesection and 70% had a target maintenance serum ferritin level of <50 mcg/L. Of the cohort presenting to haematology, 38% were not referred to gastroenterology despite meeting referral criteria. Of the 12 patients referred according to guidance, 5 underwent fibrosis assessment. Overall, 58 patients were identified who would have benefited from fibrosis assessment. Seventy-eight patients underwent ultrasound scans of the abdomen (with an average of 3 scans per patient) compared to 18 patients undergoing FibroScan.

Conclusions In general, adherence to the initial treatment pathway was variable – with the acknowledgement that in clinical practice, several factors lead to poor concordance with weekly venesection. Serum ferritin measurement was used to guide treatment in all cases. In all cases, upon confirming diagnosis, reference was made to ‘regular venesection’. Initial target ferritin was never, or very rarely, set as low as 20–30 mcg/L. The initial target in the Trust was set as less than 50mcg/L.

For patients presenting initially to haematology there was inconsistency in making referrals to gastroenterology. A proportion of this cohort would benefit from fibrosis assessment based on current guidance. The variable referral pattern to

gastroenterology may have been due to lack of hepatology services in the Trust for a period of time. Furthermore, Fibroscan services only became available in the Trust in 2020.

Ultrasound was overused and this may also be a reflection on previous lack of Fibroscan services. We feel that patients would benefit from a defined HH service and closer coordination of care between specialists.

PWE-41 IS ABDOMINAL ULTRASONOGRAPHY A RELIABLE MODALITY TO DIAGNOSE COMPENSATED ADVANCED CHRONIC LIVER DISEASE?

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Introduction Compensated advanced chronic liver disease (cACLD) refers to a cohort of asymptomatic patients with advanced fibrosis who do not yet exhibit significant biochemical evidence of synthetic dysfunction or clinical and radiological manifestations of portal hypertension. Ultrasonography (US) is a first-line radiological investigation for patients with suspected chronic liver disease but its role in diagnosing cACLD is not well-established. The aim of this study is to assess the diagnostic accuracy of US in identifying patients with cACLD using categorical cut offs of Transient Elastography (TE) based on Baveno VI consensus.

Methods A retrospective cross-sectional observational study was conducted at the Royal Wolverhampton Hospital NHS Trust for patients with suspected chronic liver disease who underwent US, TE and screening blood tests within 12 months of each other as part of their investigations. Patients were included if; TE recorded a valid reading and the US report mentioned a radiological description suggestive of cirrhosis as per the nomenclature agreed with the local specialist sonographers (coarse echotexture, irregular liver margin, nodular or heterogeneous parenchyma, or cirrhosis). Patients were excluded if; US showed signs of portal hypertension, there was a past history of hepatic decompensation, liver transplant or heart failure, or if they were currently being evaluated for acute hepatitis. Sensitivity, specificity, positive and negative predictive value (PPV & NPV) of US to detect cACLD were calculated using categorical cut offs of TE based on Baveno VI consensus (TE >15 kPa as positive and <10 kPa negative for cACLD respectively).

Results 1528 of 3357 screened patients were included; mean age 51 years, 64% men and 71% of white ethnicity. Aetiology of liver disease included [%; n]; ALD (20, 312) NAFLD (29, 452), Hepatitis C (11.4, 175), Hepatitis B (11, 168), PBC (4, 63), AIH (2.7, 42), Haemochromatosis (2.7, 41), unspecified (18, 275).

The overall sensitivity and specificity of US for diagnosis of cACLD was 64.6% ($p<0.0001$) and 78% ($p<0.0001$) respectively, with PPV of 40% ($p<0.0001$) and NPV of 91% ($p<0.0001$). A similar trend was seen across all aetiologies.

We also found that a platelet count (PLT) of $<150 \times 10^9/L$ and serum albumin concentration (ALB) of <35 g/L improved the PPV of US for detecting cACLD to 84% (95% CI 73–95%, $p<0.0086$), while a normal PLT and ALB reduced the PPV to 21% (95% CI 15.4–26.2%, $p<0.0001$). Similarly, the NPV of US for excluding cACLD was 93%