PWE-139 FURTHER VALIDATION OF TERMINAL PEPTIDE OF PROCOLLAGEN III (PIIINP) FOR THE DETECTION AND ASSESSMENT OF NONALCOHOLIC STEATOHEPATITIS IN PATIENTS WITH NONALCOHOLIC FATTY LIVER DISEASE

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Introduction PIIINP has recently been shown to discriminate between simple steatosis (SS) and NASH both in patients without advanced fibrosis and in patients with all degrees of fibrosis[1]. In this study we validated PIIINP as a biomarker of NASH in a cohort of patients with biopsy proven NAFLD and evaluated its performance at the proposed diagnostic thresholds.

Methods 71 patients with NAFLD and no evidence of other liver disease were included in this study. Liver biopsies were performed on all patients and analysed by a expert liver histopathologist. All liver biopsies were of suitable size for analysis (> 12mm and > 5 portal tracts) and classified in a dichotomous manner into those with SS or histological NASH. Fibrosis was assessed using the Scheuer classification. Serum samples were taken at the time of liver biopsy.

Results 14 of the 60 patients with non-advanced fibrosis (4-F0, 18-F1.1-F2) and all 11 patients with advanced fibrosis (9-F3, 2-F4) had NASH respectively. The AUROC of PIIINP in discriminating between SS and NASH in patients with non-advanced fibrosis and all degrees of fibrosis was 0.81 (CI 0.69–0.94) and 0.87 (CI 0.79–0.96) respectively. In comparison, the ability of ALT to discriminate between SS and NASH ranged between 0.43–0.45. The performance of the recently proposed thresholds PIIINP in their ability to diagnose NASH in our population is displayed in the table.

Abstract PWE-139 Table

PIIINP Threshold ng/ml	F0–2: NPV/PPV %	F0–4: NPV/PPV %
5.2	92/42	88/56
7.2	85/68	83/85
11	77/100	72/100

Conclusion PIIINP discriminates between SS and NASH. The performance of the proposed diagnostic thresholds is comparable to that reported in the original publication of this biomarker. Our results suggest that PIIINP can be used to detect the minority of patients with NAFLD who have NASH and are at risk of developing progressive fibrosis.

Disclosure of Interest None Declared.

REFERENCE

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PWE-140 COMPARISON OF 4 SERUM MARKERS PANELS OF FIBROSIS IN CHC: VARIANTS OF THE HYALURONIC ACID (HA) ASSAY SIGNIFICANTLY AFFECT THEIR DIAGNOSTIC PERFORMANCE

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Introduction The detection of advancing fibrosis in patients with CHC and prior treatment failure is important for ascertaining prognosis. HA has been used alone and as a constituent component of fibrosis marker panels. The aim of this study was to compare the performance of 4 marker panels in the detection of moderate-to-severe fibrosis (Metavir F2–4) and to assess the influence on diagnostic performance of using 2 different validated assays for HA.

Methods 80 patients with CHC, all non-responders or relapsers to IFN-based treatment, were included in this study. Sera obtained within 6 months of liver biopsy were used to measure 4 biomarker panels incorporating HA (ELF, Fibrospect-II, Hepascore, Fibrometer-2G) using 2 validated assays for HA (ELISA-Siemens, radiometric-Pharmacia). Diagnostic performance for the detection of moderate-to-severe fibrosis was assessed by AUROC and by evaluating biomarker performance at published thresholds.

Results The prevalence of moderate-to-severe fibrosis was 63% (F0–8%, F1–29%, F2–24%, F3–30%, F4–9%). The AUROC of the Siemens HA assay was higher than the Pharmacia assay (0.80 Vs. 0.69, P = 0.005). Incorporating the Siemens assay for HA, the performance of the panels were not statistically significantly different but Fibrometer 2G generated the highest AUROC. Using the Siemens assay, ELF and Fibrometer 2G had the highest PPV and NPV respectively (88% and 100% using published thresholds). The use of the Pharmacia assay for HA to calculate the biomarkers did not reduce the discriminatory ability of the 4 panels (p = NS). However whereas the other panels were largely unaffected, the use of the Pharmacia assay resulted in a dramatic reduction in the performance of published thresholds of the ELF test with the *a priori*and *a posteriori* probability of fibrosis being equal.

Abstract PWE-140 Table

	HA-Siemens AUROC (PPV/NPV)	HA-Pharmacia AUROC (PPV/NPV)
HEPASCORE	0.85 (79/67)	0.81 (73/72)
FIBROMETER2G	0.88 (71/100)	0.87 (70/100)
ELF	0.84 (88/62)	0.79 (63/37)
FIBROSPECTII	0.84 (86/59)	0.81 (84/55)

Conclusion In this study the performance of the 4 biomarker panels to detect moderate-to-severe fibrosis was comparable. The diagnostic performance of biomarker panels may be significantly effected by the selection of the individual component assays as demonstrated by comparison of the results obtained with different HA assays.

Disclosure of Interest None Declared.

PWE-141 CONTINUITY OF CARE IN HEPATITIS C PATIENTS SERVING A CUSTODIAL SENTENCE IN SCOTLAND

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Introduction Hepatitis C Virus (HCV) has been deemed by the Scottish Government to be 'One of the most serious and significant public health risks of our generation'.[1] Approximately 90% of those who are currently infected acquired the virus through drug injecting

behaviour.[2] A custodial sentence provides a unique opportunity to focus on hard to reach patients, providing the possibility of testing, diagnosis and treatment of the disease.

Methods An online questionnaire was made available to nursing staff currently working for the Scottish Prison Service (SPS). A questionnaire was also given to prisoners currently incarcerated in Scottish Prisons. The data gathered was compiled to evaluate the need for a standardised care pathway for HCV in the SPS.

Results Almost half of prisoners considered themselves to be at risk of HCV. Seventeen per cent of prisoners who did not consider themselves to be at risk had shared needles and/or other injecting paraphernalia. Eighty-eight per cent of blood borne virus nurses thought it would be of benefit if the prisoner did not move prison whilst receiving HCV treatment.

Forty seven per cent of prisoners considered themselves to be at risk of Hepatitis C and 2% were unsure of their potential risk. Twentyseven per cent of prisoners who do not consider themselves to be at risk have used intravenous drugs, 10.6% have shared needles and a further 6% have shared other injecting paraphernalia. Eightytwo per cent of the people who considered themselves to be at risk, or were unsure of their potential risk have been offered a test and 74% have been tested. Seventy per cent of the group that have been tested were tested in prison. Fifty seven per cent tested positive. Eightyeight per cent of blood borne virus nurses thought it would be of benefit to the treatment of Hepatitis C if the prisoner did not move prison whilst receiving treatment.

Conclusion A clear majority of the nurses thought that a standardised transfer form would be of benefit to patient care. As a result of this finding a standardised transfer form is in the process of being designed. The secondary outcome measures proved most interesting. Many prisoners claimed to have been vaccinated against Hepatitis C, indicating their lack of understanding of the virus. Further research is needed into improving education for the high risk population.

A lack of awareness of HCV amongst prisoners was identified, making further education crucial to achieving satisfactory health promotion and disease prevention. This study also concludes that a standardised transfer form would be of benefit to patient care. Further research is needed into improving education for the high risk population.

Disclosure of Interest None Declared.

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PWE-142 DOES THE PRE-BONE MINERAL DENSITY FRAX SCORE PREDICT FRACTURE RISK IN PATIENTS WITH CIRRHOSIS?

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Introduction Cirrhosis is an independent risk factor for osteoporosis, with risk of morbidity through fragility fractures. BSG guidelines recommend that all patients with cirrhosis should be offered DEXA scans to measure bone mineral density (BMD), and receive appropriate treatment. The FRAX score is a widely used internet-based algorithm that predicts fracture risk, which can be calculated with or without BMD data. The aim of this study was to determine if the FRAX score without BMD is effective in predicting fracture risk in patients with cirrhosis to potentially reduce the need for BMD testing.

Methods Between Nov 11 and Jan 12 consecutive patients with cirrhosis who were reviewed in 3 sub-specialist liver clinics (ALD, NASH and HCV) at the Freeman Hospital were included. Clinical and demographic patient information was collected retrospectively. FRAX scores were calculated with and without BMD data.

Results 146 patients (46 NASH, 50 ALD and 50 HCV) were studied (mean age 59±12, 68% male, mean BMI 30±6). 91 patients had BMD assessed (9 [10%] were osteoporotic and 43 [47%] were osteopenic at the spine and/or hip). 10 (6.8%) had a previous osteoporotic fracture. The pre-BMD FRAX score categorised fracture risk as high in no patients, intermediate in 26 (18%) and low in 120 (82%). Overall, 11 (18%) were categorised as high risk with the post-BMD FRAX. 9 patients (10%) moved from a low risk with pre-BMD FRAX to a high risk with post BMD FRAX. In addition 2 (3%) moved from intermediate to high with post-BMD FRAX. Only 5 of 9 (55%) of patients with osteoporosis on BMD were classified as high risk with post BMD FRAX score. There were no significant differences in fracture risk or BMD between patients with ALD, NASH or HCV.

Conclusion The pre-BMD FRAX score underestimates fracture risk in patients with cirrhosis. Therefore, assessment of BMD should continue to form part of the assessment of fracture risk in patients with cirrhosis. As the post-BMD FRAX score includes other risk factors for fracture in addition to bone density it might be the most appropriate to determine which patients require treatment to prevent fractures.

Disclosure of Interest None Declared.

PWE-143 SEQUENTIAL ORAL ANTI-VIRAL THERAPY FOLLOWING PEGYLATED-INTERFERON-ALPHA FAILURE SIGNIFICANTLY INCREASES HBSAG DECLINE

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Introduction Tenofovir and Entecavir are potent oral antivirals (OAV's) and leading agents in the treatment of Chronic Hepatitis B (CHB). Despite this, they have limited ability to reduce HBsAg, thus indefinite or life-long therapy is mandated as these drugs rarely achieve immunological control. Pegylated-Interferon-Alpha (PEG-IFNα) is associated with better rates of HBsAg decline, but only a minority of patients achieve sustained immune control. New strategies to reduce HBsAg and achieve immune control, including combination PEG-IFNα & OAV are under investigation at present. Here we report data on treatment response in a cohort receiving sequential OAV therapy following PEG-IFNα failure.

Methods 55 patients (male = 41), median age 31 (range 18–55) were treated with PEG-IFNα over the course of the study. 13 patients remain on therapy and 5 patients discontinued due to poor response or intolerance. 37 patients, HBeAg positive (n = 29), completed 48 weeks PEG-IFNα and were included in the analysis. 23/37 patients (HBeAg positive = 18), following treatment with PEG-IFNα were considered non-responders and treated with sequential OAV therapy. Treatment response in this cohort was compared with 60 patients, (male = 54), median age 45 (range 21–70) receiving OAV monotherapy over a 12-month period. Serum ALT, HBV DNA and HBsAg were quantified at baseline and longitudinally in both cohorts.

Results In the sequential therapy group, baseline median ALT was 60 IU/L (range 31–194) and median HBV DNA 5.15 logIU/ml compared with 43 IU/L and 3.43 logIU/ml respectively for the OAV monotherapy group. ALT normalisation and reduction in HBV DNA to undetectable levels was similar in both groups over follow-up (p- = n.s). Following 12-months of OAV monotherapy the decline in HBsAg in this group overall was 0.06 logIU/ml compared to baseline (p = n.s). In patients receiving sequential OAV therapy there was a significant decline in HBsAg over follow-up compared to baseline (0.65 log IU/ml, p = 0.0001). In addition 4/18 HBeAg positive patients seroconverted on sequential therapy and 1 patient cleared HBsAg.