

was in close proximity to B cell rich areas. TSPAN6 expression was highly variable between primary liver cancer tumour tissues, but increased expression was linked to higher patient survival. Our preliminary data suggest that TSPAN6 could play a role in the tumour microenvironment of primary liver cancers and further investigation is warranted.

**P177 IDENTIFYING MISSED OPPORTUNITIES FOR TRANSPLANT ASSESSMENT: A REVIEW OF REFERRALS TO A LIVER TRANSPLANT CENTRE**

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**Introduction** Liver transplant (LT) has revolutionised management of chronic liver disease. In an era of ever-increasing demand, promoting equity of timely access needs to be a priority. Markers of disease severity including MELD and nutritional status correlate well with waiting list mortality. These variables deteriorate with referral delay. Through analysis of patients referred to a LT unit over a two-year period we sought to establish characteristics that could be used as markers to represent a 'late' referral.

**Methods** Referrals for liver transplantation for chronic liver disease (CLD) between 1 April 2017- 31 March 2019 were reviewed. Electronic patient records were interrogated to establish patient demographics, severity of disease at referral and assessment outcome.

**Results** In this period 371 patient with CLD were referred for LT assessment. Of these, 64% were male and 50% had alcohol related liver disease. Median UKELD at referral was 54 (range 42–72), 58 (16%) UKELD > 60 at referral.

150/371 (40.4%) were listed for transplantation of whom 26 (17%) died on the waiting list. In addition, 19 (5%) of patients died prior to completion of their assessment and 17.9% were not listed because they required further optimisation of clinical status due to frailty or malnutrition. Other patients were declined listing because of medical/surgical contraindications (31.2%), alcohol concerns (9%) and were considered too early (36.1%). In total therefore 144 patients (39%) were unable to access LT because of the advanced nature of their disease.

281 patients (76%) had ascites at referral, 64 (22.8%) had undergone > 5 paracentesis (LVP) procedures prior to referral, 27 (9.6%) had undergone > 10 LVP. A smaller proportion of patients in the >10 LVP group were listed compared with the <10 group (26% vs 35%). A greater proportion of patients in the >10 LVP group died during the study follow-up period compared with <10 group (37% vs 32%).

**Conclusion** In this heterogenous population, identifying markers of 'late referral' is challenging. A potential surrogate marker identified by this study is number of LVP prior to transplant assessment referral. There are unavoidable late referrals due to late presentation, non-attendance or substance concerns. Failure to recognise the significance of recurrent LVP procedures may represent missed opportunities for earlier referral. It is likely that the reasons behind these later referrals are multi-factorial and further work is needed to identify and improve these modifiable risk factors.

**P178 GOOD CLINICAL OUTCOMES FOLLOWING DIRECT INTRAHEPATIC PORTOCAVAL SHUNT (DIPS) FOR BUDD CHIARI SYNDROME**

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**Introduction** Budd Chiari syndrome (BCS) is a rare but potentially life-threatening condition. Recanalization using TIPSS or hepatic venous stenting is key to relieving hepatic congestion. These procedures are impossible in complete HV occlusion. Direct intrahepatic portocaval shunt (DIPS) is a new procedure where a stent is placed directly from the inferior vena cava, often through the caudate lobe, to the portal vein and therefore bypassing the thrombosed HVs. We report our experience in using DIPS for recanalization in BCS.

**Methods** Single centre retrospective analysis from May 2015 to January 2019 comparing outcomes following a DIPS insertion compared to our centre's previously published data.

**Results** 14 patients were referred for a DIPS procedure. M:F ratio 8:6; age 40.5±13.2; follow up 23.1±15.0 months. HV-BCS type in all. Aetiology: myeloproliferative neoplasm (MPN) in 7, all JAK2+ve with mutation load 17.3±10.2%; PNH, 1; idiopathic, 6 (all -ve following next generation sequencing). Pre-DIPS: MELD 13.1±3.2, UKELD 49.1±13.35, BCS-TIPS PI score 4.45±1.1. Post DIPS portal pressure gradient was 6.9±2.2 mmHg. Clinical indication: variceal bleeding and ascites (n=1) or ascites (n=13). Multidisciplinary consensus to undertake a DIPS insertion as a first line procedure was reached in 13 patients, in 1 patient a TIPSS insertion was initially attempted, when this failed a rescue DIPS was performed. One DIPS insertion (7%) was not successful, this patient is now on the waiting list for transplantation. In all remaining patients, successful stent placement was achieved, and none required escalation to transplantation. Ascites resolution was seen in 7 out of 11 patients at follow up (64%). 2 patients developed hepatic encephalopathy post DIPS (14%). Primary patency rates at 6 months, 1 year, and 2 years were 83%, 83%, 58% respectively. Secondary patency was 100%. Transplant free survival 100% to date. The outcomes are comparable to a previously reported series from the same institution, with similar BCS-TIPS PI but slightly lower MELD.

**Conclusion** Our data demonstrates that with technical excellence, multidisciplinary management, and careful patient selection, DIPS results in very good clinical outcomes in patients unsuitable for standard TIPSS. The outcomes are comparable to standard TIPSS from our historic data. We strongly recommend early referral of all patients with BCS to multidisciplinary teams in centres that offer advanced interventional radiology and liver transplantation.

**P179 NHS BISCUIT CULTURE – NAFLD PREVALENCE AND THE USE OF FIBROSCAN**

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**Background** Non-alcoholic fatty liver disease (NAFLD) is an emerging health problem, that can progress to non-alcoholic steatohepatitis (NASH) and cirrhosis with associated liver morbidity and mortality. The prevalence of NAFLD is estimated at 25%, with 2–3% of having NASH. It is linked with metabolic conditions, including poor diet and lifestyle changes are crucial in managing this condition. The bountiful supply of biscuits on NHS work areas means that staffs are exposed to poor diet at work. We conducted a study of the prevalence of NAFLD using Fibrosan (530, Compact, Echosense) in NHS staff in a district general hospital.

**Methods** Data was collected at a Staff Wellness Programme from 2018 to 2020 where Fibrosan was performed. Patients were defined to have NAFLD if they had Controlled Attenuation Parameter (CAP) above 248dB/m. They were defined to have significant fibrosis if Liver Stiffness Measure (LSM) above 7.8 kilopascals (kPa). They were given leaflet with dietary and lifestyle advice and invited for repeat scanning at a later date. The use of CAP in detecting mild hepatic steatosis has a reported sensitivity of 87% and specificity of 91%

**Results** A total of 74 staff (management and clinical) participated in the programme, 60 female and 14 male. Mean age 46.9 (range 25 to 70).

59.4% (n=44) had NAFLD with CAP >248 dB/m with 16.2% (n=12) also having associated fibrosis with LSM >7.8 kPa

15 patients who were identified as having NAFLD were re-scanned (mean 10.7 months) following advice on lifestyle changes. 80% (n= 12) had significant improvement in the CAP score with a mean reduction of 56.3dB/m (range 4–135). 20% (n=3) of patients whose CAP did not improve reported that their lifestyle had not changed much.

Our data showed a baseline pre-intervention CAP 308.4 dB/m and LSM 6.5 kPa. Following intervention, this improved to CAP 268.9 dB/m and LSM 4.7 kPa. Most mentioned the easy understanding of Fibrosan, and being given a number representative of the liver fat may act as a ‘shock factor’ in motivating them for lifestyle change.

**Conclusion** Although the numbers are small, this study suggests a higher prevalence of NAFLD in a district general hospital in comparison to the general populations (59.4% vs 25%). This study is limited by the non-random selection nature of our study populations, as people who signed up for Wellness Programme may have had a concern with their general health. However, it also showed a significant reduction in

CAP and LSM score post-intervention, with simple lifestyle advice in a group of motivated healthcare workers. Most mentioned ‘Fibrosan with a number representative of the liver fat’, acts as a shock factor in motivating them for lifestyle changes. Fibrosan is a quick and easy tool, and in the right context, it can be used as a primary screening tool for NAFLD in the future.

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## HOW DEPRIVATION INFLUENCES THE INCIDENCE AND SURVIVAL OF HCC PATIENTS IN THE WEST OF SCOTLAND

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**Introduction** Hepatocellular carcinoma (HCC) is rising in incidence both in Scotland and the UK.<sup>1</sup> This study set out to examine whether there is an association between deprivation and the incidence of HCC and survival following diagnosis in the West of Scotland.

**Methods** Data was collected on patients from the prospectively collected West of Scotland regional HCC database from November 2014 to August 2017. Patients were included if they had a new diagnosis of HCC not previously diagnosed or treated elsewhere. Data on deprivation was taken from the Scottish Index of Multiple Deprivation (SIMD) 2016

Data was collected on Excel and the statistical analysis was performed using R. Chi squared, unpaired t-test and log rank tests were used as appropriate. Incidence rates were age adjusted using the European standard population.

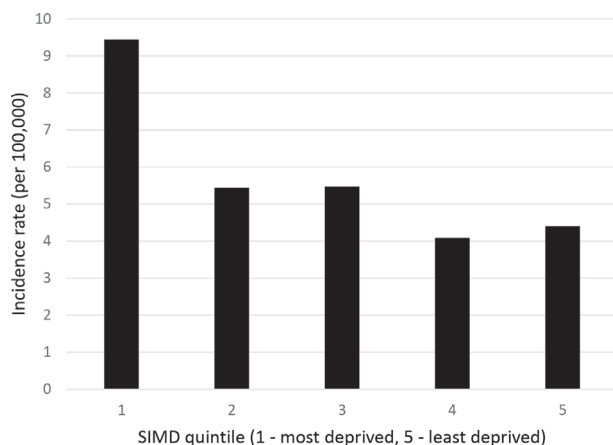
**Results** 357 patients were included in the study. 45% of all new cases of HCC were in patients living in the most deprived 20% postcodes. There was a higher incidence rate in patients in SIMD quintile 1 (most deprived) compared with quintile 5 (least deprived) (10.3 vs 5.5 per 100,000, respectively,  $p < 0.0002$ ; figure 1). This higher incidence was consistent in both men and women.

Patients in SIMD quintile 1 were younger compared with those in SIMD quintile 5, with a mean age 65.4 yrs vs 69.5 yrs respectively,  $p = 0.027$ .

A significantly higher proportion of people in SIMD quintile 1 had HCV as the aetiology of their cirrhosis compared with SIMD quintile 5 (30% vs 7%, respectively,  $p = 0.01$ ). There was no significant difference in patients with alcohol as the aetiology between SIMD quintile 1 and 5 (48% vs 50%, respectively,  $p = 0.6$ ).

Following diagnosis there was no significant difference in survival between patients in the most deprived and least deprived quintiles (median survival 368 days vs 325 days,  $p = 0.8$ ). The only predictors of survival after diagnosis of HCC were BCLC stage ( $p < 0.0001$ ), Child Pugh score ( $p < 0.0001$ ) and age ( $p < 0.005$ )

**Conclusions** In contrast to previous studies, we found a higher incidence of HCC in both men and women living in the most deprived areas.<sup>1</sup> The proportion of HCC patients with HCV (but not alcohol) as the aetiology of cirrhosis was higher in the most deprived compared with least deprived quintile. Following diagnosis of HCC, we found no difference in survival between patients living in the most and least deprived areas.



Abstract P180 Figure 1