13 years post OLT. However, from this point onwards mean plasma SA remained elevated with a low-normal PBG synthase activity similar to that seen in nitisinone treated patients. There was no apparent correlation between SA levels and renal function. Despite reduced PBG synthase levels, no patients developed porphyria-like symptoms.

Conclusion Urinary and plasma SA levels are elevated following OLT for TT1. Low-normal PBG synthase activity suggests the circulating SA may be functional. The clinical significance of this is unclear.

P80 PATIENT CHARACTERISTICS AND OUTCOMES IN A 'HUB AND SPOKE MODEL' FOR LIVER TRANSPLANTATION PROVISION: THE SOUTH WEST LIVER UNIT/KING'S COLLEGE EXPERIENCE

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Introduction Liver transplantation (LTx) is the only curative therapeutic modality for patients with end-stage liver disease (ESLD). A detailed evaluation of the liver transplant patient is critical to identify patients most likely to benefit from LTx in an era of organ donor shortage to optimise use of a scarce resource.

Aim The aim of this study was to analyse the profile and outcome of LTx referrals in a 'hub and spoke' LTx service.

Method A retrospective study of all patients referred to the South West Liver Unit, liver transplant service between April 2007 and April 2011. Patients with acute liver failure were excluded from the analysis. Pre-transplant and post-operative follow-up was performed at the South West Liver Unit. All operations were performed at King's College Hospital, London. Pre-LTx demographic and laboratory data were analysed using descriptive methods. Comparisons (Mann-Whitney) and survival (Kaplan-Meier) were estimated. α level of 0.05 was accepted as significant.

Results 191 consecutive patients (n=128, 67% males) underwent elective pretransplant assessment and posttransplant management. Mean age was 53 years, SD 10.3 (range 19–70). Currently, 9.4% (18/191) patients are under assessment, 10.5% (20/191) are on the waiting list for LTx, 29.8% (57/191) have been transplanted, 7.9% (15/191) died on the list and 42.4% (81/191) were assessed but not listed (too advanced disease in 12%, not fulfilling minimal listing criteria 14.7% and contraindicated 15.7%). Among patients who met minimal listing indications 21% (n=19) were diagnosed with

hepatocellular carcinoma (chronic HCV infection or/and alcohol background), 30% (n=28) had alcoholic liver disease, 9% (n=8)—chronic HCV infection, 11% (n=10) exhibit both alcohol and viral aetiology, 4% (n=4)—autoimmune hepatitis, 11% (n=10) - PBC/PSC, 4% NASH (n=4), 2% (n=2) cryptogenic cirrhosis and in 9% (n=8) rare diseases (vascular, metabolic, congenital or chronic rejection). These proportions did not deviate from the whole assessed cohort. Mean UKELD, MELD and CTP scores of all assessed patients were 52 (SD 5.2), 12 (SD 5.6) and 8 (SD 1.9). UKELD correlated strongly with MELD and CTP (Spearman's ρ 0.68 and 0.72, $p<0.01$) and was slightly higher in listed for LTx group. CTP score did not differ between transplanted and not transplanted patients. Among the liver recipients 36% were blood group A, 12% B, 10% AB and 42% O, similar to the distribution in the whole group. Mean BMI was 26.2, not different between transplanted and not listed patients. However, a third of all assessed patients had severe protein malnutrition, evaluated with hand dynamometry and estimated energy expenditure/intake ratio. The prevalence of HPS and PPH were 9% (11/122) and 3% (4/135) respectively. Three months-, 1- and 3-year survival of the patients and the grafts were 98%/97%/97% and 98%/95%/90%. Abstract P80 figure 1 illustrates the differences in survival of transplanted and not transplanted patients.

Conclusion Graft and patient survival in the 'hub and spoke' model is good. Alcohol and hepatoma are the commonest reasons for listing. Protein malnutrition is common in this patient cohort suggesting improved patient nutrition and early dietician involvement is needed.

P81 PRE-TRANSPLANT HISTOLOGICAL ASSESSMENT IN PATIENTS WITH ALCOHOLIC LIVER DISEASE DOES NOT PREDICT RISK OF RECIDIVISM POST LIVER TRANSPLANTATION

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Introduction Liver transplantation for alcoholic liver disease (ALD) is well established, but it remains a controversial indication. Assessment of patients in whom alcohol has been a contributing factor to chronic liver disease aims to identify those at risk of relapse. As well as psychological assessment, histological evidence of steatohepatitis may indicate ongoing alcohol consumption.

Aim To determine the prevalence of histological evidence of ongoing alcohol use among patients undergoing liver transplant assessment for ALD and its affect on listing and risk of recidivism.

Method Consecutive patients with ALD assessed for liver transplantation between 2006 and 2010 were included. Transjugular liver biopsy was performed routinely in all patients and specimens were reviewed by an expert hepatopathologist. Outcomes including decision to list for transplant, survival and recidivism (patient admission or blood alcohol detection) were recorded

Results 122 patients were included (70% male, median age 55) with diagnoses of lone ALD (92), ALD/HCV (10) and HCC (10). Histology was insufficient for analysis in four. Most patients (108, 89%) had histological evidence of micronodular cirrhosis without evidence of steatosis or steatohepatitis, suggesting abstinence. Of these, 52 were listed for transplantation though two were subsequently removed for recidivism. To date, 39 have been transplanted; 1-year follow-up was available in 28. The overall 1-year survival was 90% and 28% had returned to drinking alcohol (n=7), although none were 'problem' drinkers.

Abstract P80 Figure 1 Survival of all patients.

In the remaining 10 patients, histology revealed cirrhosis with active steatohepatitis (n=2), chronic viral hepatitis (n=1) and mild steatosis (n=7). One patient with steatohepatitis was known to be drinking at the time of assessment; the remainder were listed for transplant. Subsequently, one patient with steatosis was found to be drinking and removed. To date, six have been transplanted and survived to 1 year, with two returning to alcohol post-transplant.

Conclusion Histological analysis during liver transplant assessment does not determine the decision to list for liver transplantation nor predict the risk of recidivism. As a result, we no longer routinely perform liver biopsy during liver transplant assessment. A significant proportion of patients return to alcohol consumption post liver transplantation.

P82 HAEMOGLOBIN LEVEL PRIOR TO LIVER TRANSPLANTATION: DOES IT PREDICT THE OUTCOME?

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Introduction Approximately 75% of patients with chronic liver disease have anaemia secondary to iron deficiency, haemorrhage, haemolysis, reduced erythropoiesis, hypersplenism, drugs or haemodilution. In other specialties (cardiac and renal) it has been proven that pre-transplant anaemia impacts negatively on both patient and graft survival. This has not been studied in liver graft recipients.

Aim To define whether pre-transplant Hb levels impact on the 5-year survival and the need for re-transplantation.

Method Retrospective study of all patients who had liver transplantation (LT) at our centre between 1 August 1988 and 1 August 1999. Patients were included if they had a pre-LT haemoglobin (Hb) level recorded and 5-year follow-up available. Hb is expressed in g/dl. In order to define a survival threshold, patients were classified according to their Hb levels (Hb<8, Hb=8–10, Hb=10–12, Hb>12). Statistical analysis was performed using χ^2 test, Kaplan–Meier and Student t test.

Results 720 patients were included. Mean age [SEM] was 37 [0.6]. Males were 349/720 (49%). 198 patients had Hb>12 g/dl, 318 had Hb between 10 and 12 g/dl, 182 had Hb 8–10 g/dl and 22 had Hb <8 g/dl. Mean age of each group was 41 [1.1], 37 [1.0], 34 [1.3], 24 [3.2] (p<0.01) respectively. The 5-year survival was 60%, 63%, 50%

Abstract P82 Figure 1 5-year survival post liver transplantation according to Hb classification (p<0.01).

and 59% respectively (p<0.05). There was no difference between these Hb groups in relation to the need for retransplant. Using a Hb level of 10 g/dl as a cut-off value, a Kaplan–Meier survival analysis (see Abstract P82 figure 1) showed that survival was significantly improved in patients with a pre-LT level of ≥ 10 g/dl (p<0.01). Simultaneous multi-variate binary logistic regression [OR, (CI), p value] showed that age [0.98, (0.97 to 0.99), <0.01], Hb ≥ 10 [1.6, (1.2 to 2.3), <0.01] and a diagnosis of PBC [2.5, (1.3 to 4.6), <0.01] could predict the 5-year survival post-LT.

Conclusion This study demonstrates a significantly worse 5-year survival in patients with pre-LT Hb<10 g/dl. Prospective randomised trials to study the impact of correction of pre-LT Hb<10 g/dl on the long-term survival is required to define a treatment strategy.

P83 COMBINED LIVER AND KIDNEY TRANSPLANTATION: A SINGLE CENTRE EXPERIENCE

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Introduction Combined liver kidney transplantation (CLKT) is an accepted approach to management of patients with dual organ pathology, but may be associated with significant additional post-operative morbidity and mortality in comparison with transplantation of either organ alone.

Aim To analyse the experience of CLKT at a single centre.

Method Retrospective analysis of all CLKTs performed at our centre between May 1994 and August 2010. Data collected included demographics, indications for CLKT, surgical techniques, post-transplant complications and patient/graft survival.

Results Of 2130 liver transplants (LT) performed there were 24 CLKTs—12 male with median age 52 years, Child-Pugh score 7 and MELD 19. Indications for LT were polycystic liver disease 11 (46%), cirrhosis 7 (29%), hepatocellular carcinoma 2 (8%), recurrent PSC/PBC 3 (12%), oxalosis 1 (4%). The indications for kidney transplantation (KT) were polycystic kidney disease 10 (42%), calcineurin-inhibitor toxicity 4 (17%), chronic kidney graft failure 4 (17%), IgA nephropathy 3 (13%), diabetes 1 (4%), Type II hyperoxaluria 1 (4%), glomerulonephritis 1 (4%). Five patients had prior KT; four chronic graft failure, 1 calcineurin-inhibitor toxicity. 12 patients (50%) were dialysis-dependent pre-transplantation.

During a median follow-up of 1223 days (IQR 550–2264 days) 5 patients died (overall survival 79.2%) with a median time from CLKT to death 947 days (range 4–2373 days). Causes of death: primary non-function of the liver (1), cardiac complications (2) and de novo cancer (2). Seven patients (29%) had at least one episode of histologically proven acute cellular rejection of the liver and 1 (4%) acute renal rejection.

Cumulative 1, 3 and 5-year patient, liver graft and kidney graft survival were 96%, 85%, 75%; 86%, 79%, 62% and 91%, 85%, 75% respectively. 3 patients required further liver transplantation (2 hepatic artery thrombosis, 1 primary non-function). 13 patients required haemodialysis post-operatively. At 3-month follow-up, survivors had median creatinine and eGFR of 129 μ mol/l and 48 ml/min respectively; 1 patient still required dialysis. At 1 year and 5 years median creatinine and eGFR were 134 μ mol/l and 43 ml/min, 155 μ mol/l and 38 ml/min respectively. 1 patient resumed haemodialysis 4640 days after CLKT and is on the waiting list for renal re-transplantation.

Conclusion CLKT in this cohort had favourable outcomes with excellent patient and graft survival (both organs). Although the number of patients in our study is relatively few, 5-year kidney graft survival rates do not appear inferior to published data for patients undergoing renal transplantation alone.