PTU-061 OUTCOMES OF PAEDIATRIC LIVER TRANSPLANT RECIPIENTS FOLLOWING TRANSITION FROM PAEDIATRIC TO ADULT HEALTHCARE SERVICES

doi:10.1136/gutjnl-2012-302514c.61

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Introduction Given the success of paediatric transplantation, there is now a growing population of patients that undergo transition from paediatric to adult healthcare services. In the renal transplant setting, these patients appear to be at increased risk of short-term graft loss.[1] However, the outcome of liver transplant patients who undergo transition remains unclear. Our aim was, therefore, to examine the patient and graft survival of liver transplant patients who undergo paediatric to adult healthcare transition.

Methods Single-centre retrospective study of 85 liver transplant recipients who underwent transition from paediatric to adult healthcare services between March 2001 and August 2011 (median follow-up time from transition 4.1 (range 0.2–10.7) years).

Results During the 10-year period, there were 48 (56.5%) males and 37 (43.5%) females. The median age at time of transplant was 8.4 (range 0.6–17.9) years. The initial indications for transplantation were: biliary atresia (27.1%), Wilson's (14.1%), other acute liver failure (11.8%), cystic fibrosis (9.4%), autoimmune hepatitis (8.2%), cryptogenic cirrhosis (4.7%), oxalosis (4.7%), other (20.0%). At the time of transition, the median age of the patients was 18.9 (range 16.6–23.1) years. 84.7% of patients were on their first graft, 12.9% were on their second and 2.4% were on their third at this point. The immunosuppression at transition was calcineurin inhibitor (CNI) monotherapy in 38.2%, a CNI combination regimen in 20.6%, and a CNI free regimen in 41.2%. Following transition, the estimated 1-, 5- and 10-year patient survival was 98.6%, 96.8% and 91.4%, respectively, and the estimated 1-, 5- and 10-year graft survival was 98.6%, 95.0% and 89.4%.

Conclusion Our results demonstrate that paediatric liver transplant recipients have a better outcome than previously reported in renal transplant recipients after transition.[1] This may suggest that this group of patients are more tolerant of their graft or that transition was adequately managed.

Competing interests None declared.

REFERENCE

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PTU-062 SIGNIFICANT RESPONSE TO LOCAL ABLATIVE BRIDGING TREATMENTS FACILITATES ACCEPTABLE RATES OF SURVIVAL FOLLOWING LIVER TRANSPLANTATION FOR HCC IN A UK CENTRE

doi:10.1136/gutjnl-2012-302514c.62

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Introduction Liver Transplantation (LT) is a well-recognised treatment option for selected patients with hepatocellular carcinoma (HCC). However there is always concern regarding tumour progression while on the waiting list. As yet there is no agreed consensus on how to reduce progression of disease while waiting. UK guidelines recommend local ablative therapy for all HCC patients being considered for LT. We have sought to review this practice and evaluate its benefit.

Methods All consecutive patients with HCC who have undergone LT between 2001 and 2010 were identified from our prospectively maintained database. All patients are discussed at our LT assessment meeting and also at a separate HPB MDT for consideration of bridging treatment. Our imaging protocol includes (1) triple phase CT to assess the number of hyper vascular liver lesions, presence of venous washout, or extra-hepatic disease, (2) MRI to re-characterise any atypical lesions or (3) CEUS for further characterisation. Patients undergo either trans-arterial chemo-embolisation (TACE) and/or percutaneous/laparoscopic radio frequency ablation (RFA) while on the LT waiting list. The response to bridging treatment is assessed and intensive surveillance for disease progression is also undertaken.

Results 55 HCC patients underwent LT (M:F=43:12), Childs-Pugh A (n=9), B (n= 30) and C (n=16). Bridging treatments were either TACE n=31, RFA n=28, or both treatments n=4. TACE treatments per patient were 1 (n=12), 2 (n=12), 3 (n=6) or 4 (n=1). Six patients did not undergo any form of bridging treatment as they rapidly progressed to LT. The response to bridging treatment was complete (n=8), good (n=28), poor (n=4) or no response (n=15). There were two deaths within 100 post-operative days. At last follow-up, 28 patients had died due to recurrent disease, stable recurrent disease n=4 or disease free n= 21. Overall survival [median (95% CI)] was 62 (53–71) months. For those with a good response to bridging treatments it was 67 (55–79) months while for those with poor/no response it was 53 (42–64) months (log-rank p=0.059).

Conclusion This study demonstrates the feasibility of various bridging treatments for patients with HCC who await liver transplantation in the UK. In combination with careful patient selection and surveillance acceptable rates of survival can be achieved.

Competing interests None declared.

PTU-063 HIGH RETICULOCYTE COUNT PREDICTS MORTALITY IN PATIENTS AWAITING LIVER TRANSPLANTATION

doi:10.1136/gutjnl-2012-302514c.63

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Introduction The shortage of donor organs for liver transplantation (LT) makes it essential that organs are allocated to patients with greatest need. There has been increasing interest in haemoglobin as a predictor of LT outcomes. We investigated red cell parameters as predictors of survival after LT assessment.

Methods Data on patients with end-stage liver disease assessed for LT between 2008 and 2010 at University Hospitals Birmingham, UK, were reviewed retrospectively. Kaplan–Meier and Cox regression analysis identified parameters predictive of death on the waiting list. To construct an updated UKELD model including high reticulocyte count (defined as >80), cases that had not received LT at 12 months were randomly divided into two groups (2:1 ratio) to for model building and testing. Accuracy of the existing and new and models was tested by calculation of c-statistics.

Results Data were collected from 393 patients. Median age was 55 years (range 17–73), 60% were male. Median UKELD was 56 (44–76). Median follow-up was 18 (0–45) months. In total 144 (37%) underwent LT. Abnormal reticulocyte count, seen in 120 patients (31%), was greatest predictor of death without LT (HR 3.1; 95% CI 1.7 to 5.6), compared to haemoglobin (HR 2.5; 95% CI 1.3 to 4.5) and MCV (HR 0.6; 95% CI 0.3 to 1.2). Abnormal reticulocyte count remained a significant predictor of death after adjustment for age, gender and diagnosis (p80; yes=1, No=0]). This model had improved predictive accuracy with a c-statistic of 0.79.

Conclusion High reticulocyte count is associated with increased risk of death in patients awaiting LT. Remodelling UKELD to include high reticulocyte count improved accuracy of predicting death on the LT waiting list.

Competing interests None declared.

PTU-064 PRE-LIVER TRANSPLANT BIOPSY IN HEPATOCELLULAR CARCINOMA: A POTENTIAL EXCLUSION CRITERION FOR TRANSPLANTATION?

doi:10.1136/gutjnl-2012-302514c.64

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Introduction In cirrhotic patients with hepatocellular carcinoma (HCC) pre-liver transplant (LT) staging biopsy of the largest tumour is undertaken in some centres. Proponents advocate that poor differentiation confers such poor prognostic significance that it can be used as an exclusion criterion for LT, resigning patients to palliative treatments. We do not carry out staging biopsies and sought to interrogate its potential use and impact on our practice in the context of ever increasing demands for organs.
Methods 65 consecutive patients undergoing orthotopic LT for radiologically diagnosed HCC at St James's University Hospital between 2006 and 2011 were identified for analysis from a prospectively maintained database. All patients had cirrhosis and incidental tumours were excluded. Diagnosis was in accordance to published guidelines and various clinic-pathological parameters were recorded. MRI findings were correlated with explant histological examination. Median follow-up was 24 months. Student t test, Mann–Whitney U test or related samples Wilcoxon Signed Rank tests were used where appropriate. The Kaplan–Meier method was used to determine survival with Log-Rank and Cox stepwise regression for survival comparisons. $p<0.05$ was considered to be statistically significant.
Results 3 year survival was 81% with the only independent predictor microvascular invasion ($p=0.019$). In 5 (7.7%) patients there was no HCC in the explant. A discrepancy between the definition of the largest lesion on pre-LT radiology and the largest explant tumour occurred in 5 (7.7%) cases. Tumours were classified as well, moderately or poorly differentiated in 39 (30.2%), 66 (51.2%) and 24 (18.6%) cases. In patients with multifocal HCC, 9 (34.6%) had tumours of differing grades. In two (7.7%) patients the largest tumour was well differentiated while smaller tumours in the explant were poorly differentiated. In one patient the largest lesion was benign with other smaller invasive carcinomas confirmed histologically.
Conclusion There is a need to optimise LT selection strategies for HCC. Microvascular invasion was the only independent predictor of outcome and the challenge of predicting it pre-operatively remains. Crucially, the largest lesion was not always representative of overall tumour burden or biological aggression and its potential use to exclude patients from curative treatment is questionable.

Competing interests None declared.

PTU-065 LONG TERM OUTCOMES OF LIVER TRANSPLANTATION FOR WILSON'S DISEASE: A SINGLE CENTRE EXPERIENCE

doi:10.1136/gutjnl-2012-302514c.65

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Introduction Wilson's disease is an autosomal recessive disorder of copper metabolism which may manifest as acute or chronic liver disease and/or neuropsychiatric disorders. Orthotopic liver transplantation (OLT) is life saving when performed for acute liver failure or end-stage liver disease but there are conflicting reports on the effects of OLT on neuropsychiatric symptoms. Furthermore, a recent report from an Italian group has highlighted poor outcomes following OLT in those with neuropsychiatric symptoms.
Aim To evaluate the indications and outcomes of OLT for patients with Wilson's disease and in particular to assess the effects of OLT on neuropsychiatric symptoms, and whether these disorders are associated with poor outcomes.
Methods Data were acquired by retrospective analysis of case notes and databases.
Results 21 adults with Wilson's disease have been transplanted in Birmingham between 1987 and 2011. 53.3 % (11/21) were performed for acute liver failure and 42.8% (9/21) for decompensated cirrhosis. One patient was transplanted due to hepatocellular carcinoma. Median age was 19.5 at diagnosis and 25 at time of OLT. 10 patients had neuropsychiatric symptoms prior to OLT (Parkinsonism in three patients, anxiety in two patients, epilepsy, OCD, depression, ataxia and migraine). These symptoms resolved in 4/10 post-OLT. However, four patients developed new onset neuropsychiatric symptoms within 2 weeks of OLT; two patients had seizures, one developed psychosis and another became euphoric. Kayser–Fleisher (KF) rings are purportedly associated with neuropsychiatric disorders; in our cohort 61.9% (13/21) of patients had KF rings and 11/13 of these had neuropsychiatric symptoms. Four patients had significant post-operative complications comprising four haemorrhagic episodes and two biliary leaks. Actuarial survival rates were 95% at both 1 and 5 years. One patient died within 3 months of OLT and three patients died >10 years post OLT. 3/4 deaths were due to multi-organ failure secondary to sepsis. Graft survival was 90% at 1 year and 81% at 5 years. Five patients have required re-grafting; three due to chronic rejection and two due to hepatic artery thrombosis. There were no appreciable differences in long term outcomes between those with and without pre-existing neuropsychiatric symptoms; 2/4 deaths and 2/5 re-grafts were in those with neuropsychiatric manifestations.
Conclusion Outcomes of OLT for Wilson's disease are comparable to transplantation for other diagnoses. Neuropsychiatric symptoms improved in <50% of patients post-OLT and may also occur for the first time following OLT. At our centre pre-existing neuropsychiatric symptoms were not associated with poor outcomes.

Competing interests None declared.

PTU-066 AN "ALCOHOL CONTRACT" HAS NOT REDUCED RATES OF POST-TRANSPLANT DRINKING FOLLOWING TRANSPLANTATION FOR ALCOHOLIC LIVER DISEASE

doi:10.1136/gutjnl-2012-302514c.66

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Introduction Reports of patients returning to drinking after orthotopic liver transplantation (OLT) for alcoholic liver disease (ALD) remain a source of unease for professionals and the public. Recidivism rates of 10%–16% are reported with a low rate of alcohol-related graft loss.[1 2] In 2005, the UK Transplant liver advisory group recommended an "alcohol contract" in which ALD patients listed for OLT confirmed in writing their commitment to abstinence.[3] The purpose of our study was to measure the rates and consequences of post-OLT alcohol intake in a UK transplant program and assess the effect of the "alcohol contract" on rates of post-transplant drinking.
Methods Prospectively collected data were reviewed for 100 randomly selected patients transplanted for ALD—32 patients