The impact of poor nutritional status on the outcome following liver transplantation in children is well recognised. The aim of this study was to investigate the effect of hypoxia on chemokine expression by non-parenchymal liver cells using an in vitro model of ischaemia.

**Introduction**

Hepatic stellate cells (HSCs) are believed to be the most important precursor of matrix-producing myofibroblasts that promote fibrosis following liver injury. In their activated form, HSCs migrate towards inflammatory foci in response to chemokines. When exposed to certain stresses, liver cells can express chemokines that control HSC migration. The aim of this study was to investigate the effect of hypoxia on chemokine expression by non-parenchymal liver cells using an in vitro model of ischaemia.

**Methods**

Data were retrieved from a prospectively maintained institutional database from 1994 to 2009. Patients were stratified into five BMI categories established by the WHO according to their Z scores: severe thinness (−3), thinness (−2), normal weight (0), overweight (+2) and obese (+3). Primary outcome was to evaluate post-operative morbidity and secondary measures were overall patient and graft survival. Categorical variables were analysed by χ², and continuous variables by one-way ANOVA. Kaplan–Meier curves were used to study patient and graft survival.

**Results**

146 paediatric liver transplants recipients were identified, of which 132 patients with height and weight data were included. 12.2% of patients were underweight (Z score −2 and −3), 8.3% were overweight (Z score +2 and +3) and the remaining 79.5% were normal weight for age. The overall morbidity was higher in underweight recipients in comparison to normal weight (81.2% vs 42.8%, p = 0.006). Post-operative septic events were common in underweight recipients in comparison to normal weight recipients (75.0% vs 25.7%, p < 0.001). Underweight patients had significantly longer intensive care stay than normal weight patients (mean 5.6 vs 3.1 days, p = 0.029). The length of ventilation period was longer in underweight recipients in comparison to normal weight recipients (mean 3.4 vs 0.9 days, p = 0.001). There was no difference in the overall length of post-operative hospital stay between underweight and normal weight recipients (mean 34.2 vs 30.9 days, p = 0.602). There was no difference in the post-operative septic events, ITU stay, ventilatory period and hospital stay between overweight and normal weight. There was no difference in overall graft (p = 0.949) and patient survival (p = 0.984) between the three groups.

**Conclusion**

This is the only reported UK series on BMI and outcome following paediatric liver transplantation. Despite current standards of peritransplant management we have demonstrated increased overall morbidity in underweight patients, with increased rates of post-operative septic complications, longer ventilatory period, and increased length of intensive care stay. However, unlike earlier studies, patient and graft survival were not affected. This study does not demonstrate any effect of obesity on post transplant morbidity or mortality.

**Competing interests**

None declared.

**PTU-052**

**IMPACT OF BODY MASS INDEX ON THE OUTCOME OF LIVER TRANSPLANTATION IN CHILDREN**

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**Introduction**

The impact of poor nutritional status on the outcome following liver transplantation in children is well recognised. Recently studies in adults and children have reported variable effects of obesity on post transplant morbidity and mortality. This study examines the impact of pretransplant body mass index (BMI) on the outcome of liver transplantation in the current era in consecutive children from a single centre.
PTU-052 Impact of body mass index on the outcome of liver transplantation in children

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