

working within the Eurotransplant allocation system in order to assess the long-term results of LT in these instable patients.

**Methods:** Amongst 345 LT, 29 (8%) were performed for FHF. All patients reached the established criteria for bad prognosis as established by the Clichy's group. All patients underwent standard medical therapy. Patients in encephalopathy stage III were intubated for airway protection, if necessary. Continuous veno-venous hemofiltration was used for renal support. No patient underwent intracranial pressure monitoring. All surviving patients were regularly controlled at the out-patient clinic and none was lost to follow-up. Mean follow-up was 101 months.

**Results:** Most frequent causes of FHF were HBV (38%) and drug-related (17%). Three patients were in encephalopathy stage II, 10 in stage III and 16 in stage IV, at time of LT listing. Mean factor V level was 16% (range: 5–31%). Mean waiting time between listing for HU LT and availability of a liver graft was 23 hours (range: 4–49 hours). One-month, one-, five- and ten-year patient survival was 79%, 72%, 68% and 68%, respectively. Causes of early death were mainly multiple organ failure and primary non-function. One-month, one-, five- and ten-year graft survival was 69%, 65%, 51% and 38%, respectively. Causes of retransplantation were mainly ABO incompatibility of the first graft and primary non-function. One patient develops brain death during the peritransplant period and one has neurological sequelae. All the other surviving patients have a very good quality of life, with two young HBV patients having three children posttransplant. One HBV patient developed HBV recurrence despite HBIG prophylaxis.

**Discussion.** This experience showed that excellent long-term survival may be obtained in FHF patients that reach the Clichy's criteria, at a price of a high rate of retransplantation.

#### 151 BLOODLESS CADAVERIC LIVER TRANSPLANTATION: EXPERIENCE WITH JEHOVAH'S WITNESS RECIPIENTS

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**Background and Aim:** Modern medical management is marked by a trend to a decreased use of blood products or to transfusion-free strategies. In liver transplantation (LT), the use of blood products (red cells, platelets, plasma components) was reduced these last ten years due to better medical and surgical management, but the interest of transfusion-free LT is debated. The authors developed a transfusion-free LT program for Jehovah's witnesses (JW), and analysed its outcome to evaluate the potential interest of bloodless strategies in LT for the JW and non-JW LT recipient population.

**Methods:** Over an 8-year period, 15 selected JW underwent LT in the authors' department, including 5 right lobes living related LT and one pediatric LT. We analysed herein the outcome of the 9 adult patients (4 males, 5 females, mean age: 48 years) who underwent cadaveric whole LT. They received preoperative erythropoietin therapy, with iron and folic acid to increase preoperative haematocrit (Ht). A cell saving system was used during the surgical procedures. No patient was lost to follow-up (mean: 48 months).

**Results:** No blood product was used in the whole follow-up. During the operative procedure a mean of 1.190 ml (range: 300–2.600 ml) were scavenged by the cell-saving system, allowing the reinfusion of a mean of 422 ml (range: 0–1000 ml) of concentrated red cells. Due to preparation, Ht level rose from 38.3±1.9% at first visit, to 44.3±1.8% just before LT ( $p < 0.05$ ). Postoperative day 1 mean Ht was 34.4±1.9%, significantly lower than the pre transplant level ( $p < 0.05$ ), and further decreased during the post transplant period (mean lowest Ht: 31.2±1.9%,  $p < 0.05$ ). Mean Ht

at discharge was 34.1±2.1%. No patient experienced complication linked to anaemia. Graft and patient survival is 100% at follow-up.

**Conclusions:** These excellent results justify the development of a bloodless LT program for JW patients. They also raise questions on the interest of a randomised evaluation of bloodless strategies in non-JW patients undergoing LT.

#### 152 CHANGES IN DONOR DEMOGRAPHICS AND THE USE OF MARGINAL LIVER GRAFTS FOR TRANSPLANTATION IN THE UNITED KINGDOM

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**Aims and Background:** The sequelae of ischaemia reperfusion injury (IRI) in liver transplantation range from primary non-function to early graft failure. Organs at higher risk of this complication are termed "marginal", and include livers from older donors, those with longer ischaemic times, or steatotic organs.

**Methods:** Prospectively collected records concerning 7315 liver offers, 6540 retrievals and 6127 transplants in the UK from 1996–2006 were reviewed in detail.

#### Results:

1. An increasing gap between supply and demand. Annual waiting list registrations rose from 719 to 934 over the time period whereas the total number of transplants fell from 666 to 601. The number of patients who died or were removed from the waiting list due to deterioration increased from 69 in 2001–2 to 122 in 2005–6.
2. Donors are becoming older. The mean age of liver donors rose 5.8 (3.6–8.0) years from 38.6 to 44.4. This was partly attributable to a reduction in the numbers of donors dying through road traffic accidents (1996–7 117 donors, 2005–6 63 donors, mean age 26 years), and partly due to a rise in of 4.6 (2.7–6.4) years in the mean age of intracranial haemorrhage donors.
3. Fewer donor organs are useable for transplantation. The proportion of livers used for transplantation fell from 81% to 78% of those offered for retrieval. The number of organs not used due to "marginal status" increased from 41.7 to 54.7 ( $p = 0.05$ ).
4. Intrinsic quality control. There was no change in the degree of steatosis of implanted livers over time. The rate of primary non-function was constant at 1.8%. Recipients of "moderately steatotic" organs were exposed to an additional absolute risk of 2.4%, equating to a number needed to harm of 42 patients.

**Discussion:** The number of organs useable for liver transplantation is decreasing. Despite this, quality of implanted organs is maintained, and the rate of primary non-function is constant. Given the small additional risk of primary non-function, the use of marginal organs might be justified. Intention to treat analysis of liver transplant schemes might reward more efficient use of organs.