Method: The data of 97 consecutive patients who underwent liver transplantation at Amrita Institute of Medical Sciences between 2004 and 2011 were reviewed. The total bilirubin levels on postoperative days 1, 3, 7, and 14 were correlated with the incidence of mortality within 3 months of the procedure. Bivariate analysis was done using Pearson correlation and a receiver operating characteristics (ROC) curve was plotted.

Result: There was a statistically significant correlation between the bilirubin level on the 14th postoperative day and mortality within 3 months ($P=0.01$). The ROC curve suggested that a bilirubin level of 20 mg/dL on the 14th postoperative day is able to predict the mortality with 90% specificity. The bilirubin levels on days 1, 3, and 7 did not correlate with early mortality in this study.

Conclusion: Serum bilirubin >20 mg/dL on postoperative day 14 after liver transplantation is associated with a high incidence of early mortality and hence, may be helpful in identifying the subgroup of patients who will require aggressive management or re-transplantation.

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TRANSFUSION PREDICTORS IN PEDIATRIC LIVER TRANSPLANTATION—SINGLE CENTER'S EXPERIENCE

SD Allanki

Department of Transfusion Medicine, Global Hospital, Lakdikapul, Hyderabad

Background: Surgical techniques used during pediatric liver transplantation (LT) together with patient's coagulation profile and institutional practice are reported to have an effect on transfusion requirements.

Aim: To identify the factors which played a significant role in transfusion requirement among pediatric patients who underwent LT in our center and to compare between children weighing <10 Kg and children ≥10 Kg.

Method: From June 2003 to May 2011, 13 children underwent LT at this center. Of 13, 3 children weighed <10 Kg and 10 children ≥10 Kg at the time of transplantation. Pediatric end-stage liver disease (PELD) score, previous abdominal surgery, graft-recipient weight ratio (GRWR), cold ischemia time (CIT), operative time, blood loss, and intra-operative transfusions were compared in both the groups. Intra-operative transfusion was calculated as the sum of the total volume of red cells, plasma, platelets, and cryoprecipitate transfused intra-operatively. Data were expressed as median and range.

Result: Of 138 M/5 F, 3 children underwent DDLT, 2 whole livers and 1 split graft, and 10 children underwent LDLT. Of 10 children weighing 10 Kg, 3 children did not receive blood transfusions intra-operatively and 1 child received massive transfusion. PELD score (24.5 vs 20), CIT (3.9 vs 2.5 h), blood loss (1200 vs 500 mL), and intra-operative

transfusions (1160 vs 700 mL) were higher in children <10 Kg group than in ≥10 Kg group. There was no correlation between the previous abdominal surgery, GRWR, and operative time with transfusions in both groups, probably because of the small sample size. Overall survival was 92.3%.

Conclusion: This study is an effort to show descriptive data of our center's experience with regard to intra-operative transfusion requirement during LT in this small-sized patient population. Transfusion need for pediatric LT should be individualized for each patient based on the intra-operative conditions including surgical and patient features.

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SINGLE CENTER EXPERIENCE ON LIVING DONOR LIVER TRANSPLANTATION IN CHILDREN

N Mohan, S Karkra, R Mohanka, A Rastogi, R Kakodkar, M Balachandran, S Goja, AS Soin

Institute of Liver Transplantation and Regenerative Medicine, Medanta—The Medicity, Gurgaon, India

Aim: To assess the outcome of pediatric patients with living donor liver transplantation (LDLT).

Method: Retrospective analysis of prospectively collected data of 67 pediatric patients who underwent LDLT from August 2003 to June 2011.

Result: Of the 67 cases, 41 were males (61%) with a mean age of 6 years (5 months to 17 years) and a mean weight of 20.7 Kg (5.8–60 Kg). Indications were cholestasis in 32 (biliary atresia 25) and metabolic in 16 (Wilson's disease 10, tyrosinemia 2, primary hyperoxaluria 2, Maple syrup urine disease 1, and factor VII deficiency 1). Eighteen patients presented with acute liver failure of which 8 had Wilson's disease. Other indications were giant cavernous hemangioma 1, autoimmune hepatitis 2, and cryptogenic cirrhosis in 3. Donors were the parents in 44 and close relatives in 21. There was 1 swap donor and 1 domino graft. The grafts included left lateral 32 (48%) of which 12 were reduced, left lobe 28 (42%), right lobe 6 (9%), and whole liver in 1 case (domino). Hypertension (41.8%), acute rejection (36%), hyperglycemia (32%), sepsis (34%), pleural effusion/collapse (26.7%), Cytomegalovirus hepatitis (44%), biliary leak (3), and chylous ascites (4) were the immediate post-transplant complications. Portal vein thrombosis was seen in 7 (5 early—successfully managed at re-laparotomy and 2 late—managed conservatively) and Hepatic artery thrombosis (HAT) in 3 cases (2 died, 1 re-transplanted). Four patients had chronic rejection. Enzyme normalization and steroid withdrawal (30.35%) occurred over a mean period of 16.25 days and 14 months (6–36 months), respectively. There were 3 early deaths—an operative mortality of 3.5%, and 4 late deaths. Overall, 60 of the 67 patients (89.5%) were alive and well at a mean follow-up of 27.4 months (1–82 months); 19 (32%) patients were

<10 Kg, of which 4 (22%) died. Mean hospital stay was 29 days (15–63 days).

Conclusion: Pediatric LDLT is well established in India with results comparable with the best centers internationally. Overall survival was inferior in <10 Kg babies. Immediate complications, although frequent, are manageable. Long-term complications are uncommon.

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CLADOPHIALOPHORA BANTIANA CAUSING BRAIN ABSCESS FOLLOWING LIVER TRANSPLANT—A CASE REPORT

S Choudhury, R Aggarwal, C Supraja, S Rao, AJ D'Cruz
Pediatric Solid Organ Transplant Group, Narayana Hrudayalaya, Bangalore

Background: Fungal brain abscess is an infectious complication following liver transplantation reported in medical literature. Although rare, this infection is associated with high morbidity and mortality.

Aim: To share the experience of a child with *Cladophialophora bantiana* fungal brain abscess postliver transplantation in our institute.

Case Report: A 6-year-old boy underwent living donor liver transplantation for biliary atresia. Immediate post-operative period he developed hepatic artery thrombosis; re-exploration followed by endovascular intervention re-established arterial flow. Thirty-four days after transplantation, he developed right-sided focal seizures. CT scan of the brain revealed a left frontal lobe abscess. Neuro-navigation-aided aspiration of abscess demonstrated dematiaceous fungi on KOH mount. Liposomal Amphotericin B therapy was commenced. *C. bantiana* was grown in culture. Sequential MRI scans showed progression of the abscess, necessitating repeat aspiration followed by craniotomy. The progression was arrested by a combination of open craniotomy and a combination of antifungal therapy.

Discussion: The incidence of fungal infection following liver transplantation varies between 10% and 40%; common pathogens include *Candida* and *Aspergillus* species. *Cladophialophora* infection is very rare—no pediatric case has been reported so far. Adult experience suggests a

refractory infection with a high mortality rate. We present this case as a difficult clinical problem and a unique pediatric experience.

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EXCELLENT OUTCOME OF LIVING DONOR LIVER TRANSPLANTATION IN PATIENTS WITH HEPATOPULMONARY SYNDROME—A SINGLE CENTER EXPERIENCE

S Saigal, N Saraf, B Ragesh, R Mohanka, R Kakodkar, A Rastogi, S Goja, P Balachandran, AS Soin

Institute of Liver Transplantation and Regenerative Medicine; Institute of Digestive and Hepatobiliary Sciences, Medanta—The Medicity, Gurgaon, India

Introduction: Hepatopulmonary syndrome (HPS) is characterized by a defect in arterial oxygenation induced by pulmonary vascular dilatation in the setting of liver disease. Liver transplantation (LT) can result in complete resolution of the HPS even in its most severe presentation.

Method: Ten patients underwent living donor LT for HPS between June 2005 and May 2011. Eight of 10 were males (mean age 47.3 years). All patients were prospectively evaluated and fulfilled the standard diagnostic criteria for HPS.

Result: All 10 patients had demonstrable shunt on contrast echocardiography. Two patients had severe HPS ($\text{PaO}_2 \leq 50$ mmHg), 4 had moderate HPS ($\text{PaO}_2 > 50$ and ≤ 60 mmHg), and 4 had mild HPS ($\text{PaO}_2 > 60$ and ≤ 80 mmHg). The mean PaO_2 level was 56.7 mmHg. On macro-aggregated albumin (MAA) scan, the mean shunt fraction of 10 patients was 17.5%. Four patients were in Child's Class B and 6 in Child's C, mean MELD score was 18.5. Cyanosis at presentation was seen in 6 patients. All patients underwent right lobe living donor LT. The overall time to extubation was longer in HPS patients (mean 6.1 days, range 1–32 days). The main complications were chest infection in 5, acute rejection in 1, cytomegalovirus infection in 1, and ophthalmic herpes in 1 patient. All were doing well and off oxygen support at a mean follow-up of 30.4 months.

Conclusion: Excellent outcomes of living donor liver transplantation can be obtained in patients with HPS.