

Introduction and Aim

Starting a pediatric liver transplant program in a developing country, is a great challenge, due to technical difficulties and increased morbidity and mortality, and decreased graft survival. The first liver transplant in children was performed in FVL in 30 July 1996. During the first year of the program 2 to 7 transplants per year were carried out. From 1998 onwards we started a training program as visiting observers to other foreign hospital programs. We began with Louvain Catholic University - UCL (Belgium), then with Kyoto University and Tokyo University (Japan) in 2006, and finally with UPMC (Pittsburgh) in 2008. We describe here the experience and post-transplant survival in children from living donor, during two phases of our program.

Methods

All patients transplanted between 31 July 1996 and 30 December 2013, from living donors were included. Follow up was performed every month during the first year and every 3 months afterwards. Phases of the program were defined as follows, Phase 1 between 1996-2008, and Phase 2 between 2008-2012. Kaplan-Meier and Log Rank test were used for survival analysis.

Affiliations

- ¹ Transplant vascular surgeon and Chief of Transplant Unit. Fundación Valle del Lili (FVL).
- ² Pediatric Gastroenterologist and Hepatologist. Transplant Unit. Fundación Valle del Lili
- ³ General Practitioner. Liver Transplant. Transplant Unit. Fundación Valle del Lili
- ⁴ Transplant vascular surgeon. Transplant Unit. Fundación Valle del Lili
- ⁵ Transplant vascular surgeon. Transplant Unit. Fundación Valle del Lili
- ⁶ Fellow in Transplant vascular surgery. ICESI University.
- ⁷ Research assistant in epidemiology. Clinical Research Center. Fundación Valle del Lili
- ⁸ Pediatric Critical Care Medicine and Chief of Pediatric Critical Care Unit. Fundación Valle del Lili.

Graphs and Tables

Table 1. Vascular complications in pediatric liver transplantation from living donors

Vascular complication	Phase 1 (n=40)	Phase 2 (n=33)	P value
Thrombosis of the hepatic artery, n (%)	5 (12.5)	4 (12.1)	1.00
Thrombosis of the portal vein, n (%)	10 (25)	3 (9)	0.07
Biliary fistula, n (%)	12 (30)	11 (33)	0.95
Biliary-enteric Anastomotic stricture, n (%)	14 (35)	10 (30)	0.86

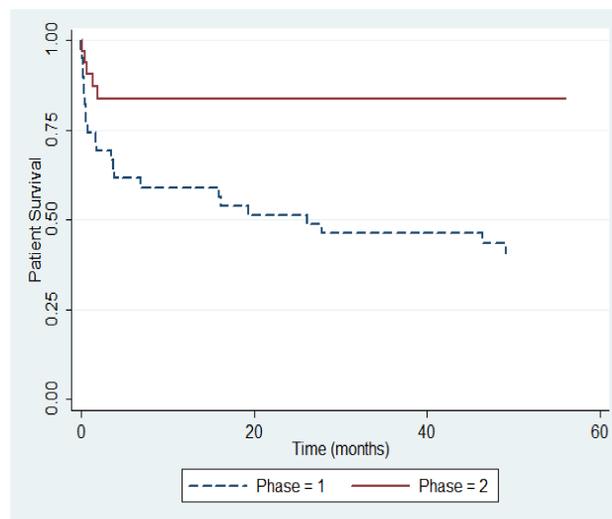


Figure 1. Kaplan-Meier curve showing the time to death in recipients with living donors in each phase (p=0.004).

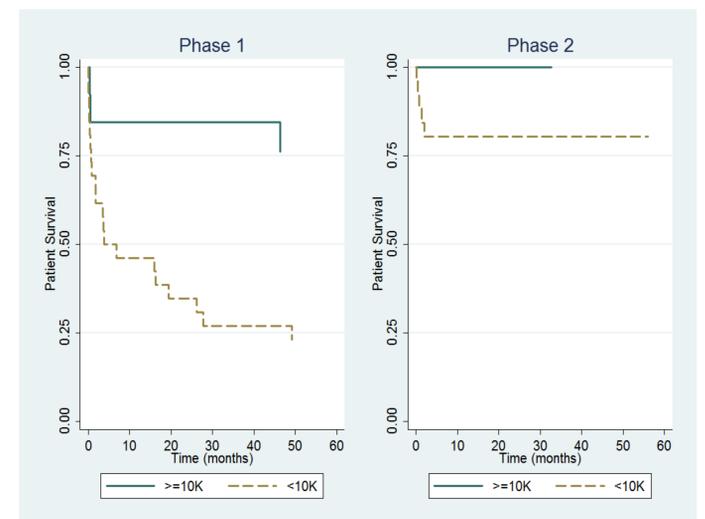


Figure 2. Kaplan-Meier curve showing the time to death in recipients with living donors by weight in each phase (p=0.0034 ; p=0.2846).

Results

Of the receptors, 37% (73/197) were transplanted from living donors. Five patients required retransplantation, 3 because of thrombosis of the hepatic artery, 1 due to thrombosis of the portal vein and 1 due to biliary duct stricture. Forty-two transplant recipients were girls (57%), median weight 7 Kilograms (IQR 6-10), median age 1 year (IQR 0,8 - 2). Indications for liver transplant were atresia of biliary tract (76%) and fulminant hepatic failure (7%). Survival after one year in Phase 1 and 2 was 59% (IC95% [42-72]) and 84% (IC95 [65-92]) respectively (p=0,004). Regarding vascular complications, thrombosis of the hepatic artery was found in 12% of the entire group; although not statistically significant, there was an important reduction in thrombosis of the portal vein (26% vs. 9%). Survival after 4 years was 84%.

Conclusions

There was a significant increase in survival, and less vascular complications in phase 2. Better survival could be attributed to greater surgical experience, larger number of patients being transplanted per year, and improved medical training through collaborative programs with experienced centers.