SENT LIVER GRAFTS HAVE NOT A DETRIMENTAL IMPACT ON POST-TRANSPLANT OUTCOME

Daniele Dondossola, MD; Lucio Caccamo, MD, PhD; Margherita Cavenago, MD; Barbara Antonelli, MD; Francesco Caruso, MD and Giorgio Rossi, MD, PhD.

HPB Unit, IRCCS Fondazione Ca' Granda - Ospedale Maggiore Policlinico, Milano, Italy.

Introduction

Feng et al. [1] in 2006 first developed a score computing the risk of graft failure at the time of organ offer. Sent livers, as interregional allocated grafts, were included in this analyses and became to be considered as extended donor criteria grafts. In our donor allocation program, namely NITp area, where allocation is centred based, the frequency of allocating sent livers is increasing, and here we evaluated our experience obtained since January to December 2014.

Objectives

With the present study we focused on the potential negative role of sent livers by the analysis of graft survival and transplant outcome in relation to donors and recipients characteristics, donor/recipient match and post-transplant follow-up.

Methods

A retrospective case match analyses was carried out from our prospective collected database. 57 liver transplants (LT) were included: 22 sent livers (SL) and 35 grafts procured by our own team (nSL). Donor (age, gender, weight, height, ICU time, DRI), transplantation (total ischemia time, procedure time, transfusion requirement) and recipient (age, gender, creatinine, bilirubine, INR, MELD, induction immunosuppression, ICU time, hospital time, graft survival, complications according to Clavien-Dindo classification) characteristics were compared between the two groups of grafts.

	non SENT LIVERS (#35)	SENT LIVERS (#22)	P
RECIPIENT CHARACTERISTICS			
AGE, yrs	51	56	ns
TOT BIL, mg/dl	6,57	5,76	ns
CREA, mg/dl	1,2	1,25	ns
INR	1,94	1,8	ns
Na, meq/l	136	138	ns
MELD	19	15	ns
HCC, n (%)	11 (31)	12 (54)	0,048
DURATION LT, min	530	524	ns
IL2-I, n (%)	20 (57)	7 (31)	0,0394
ICU, day	4,4	3,4	ns
AKI, n (%)	24 (68)	17 (72)	ns
INFECTIONS, n (%)	25 (71)	18 (81)	ns
CMV INFECTIONS, n (%)	8 (23)	4 (18)	ns
REJECTION, n (%)	7 (20)	5 (22)	ns
PNF, n (%)	1 (3)	0	ns
re-LT, n (%)	4 (11)	1 (4)	ns
DEATH, n (%)	0	1 (4)	ns
CLAVIEN GRADE, mode	IV	II	N.A.

	non SENT LIVERS (#35)	SENT LIVERS (#22)	P
DONORS CHARACTERISTICS			
AGE, yrs	57	55	ns
BMI, Kg/mq	25	25	ns
ICU, days	3	3,5	ns
TIT, min	539	560	ns
TRAUMA, n (%)	5 (14)	7 (31)	ns
CVA	30 (86)	14 (63)	0,042
D-MELD	1089	963	ns
DReAM	5,21	4,15	ns
DRI	1,7263	1,9011	0,078*
DONOR BIOPSY, n (%)	5 (14)	9 (41)	0,02
HEPATIC VASCULAR VARIANTS, n (%)	11 (31)	2 (9)	0,039

Tab. 1 Study descriptive analyses: recipients (left) and donors (up) derived characteristics (CVA, cardiovascular accidents; ICU, intensive care unit; TIT, total ischmeia time; PNF, primary non function)

Results

Neither primary-non-function nor major retrieval damage were observed in nSL group. No differences in donor characteristics were found out of causes of death (cerebrovascular causes SL 63% vs nSL 86%, p<0,05). DRI (SL 1.901 vs nSL 1.726, p=0,078) showed a trend toward a significant value. Moreover a donor liver biopsy was performed more frequently in SL group (SL 41% vs nSL 14%, p<0,05). No differences were found in both transplant and recipient variables, except for the number of patients receiving immunosuppressive induction with IL-2 inhibitor (SL 6 vs nSL 14, p<0.05) and for the number of patients transplanted with hepatocellular carcinoma (SL 50% vs nSL 34%, p<0.05) . Re-LT were performed in three cases: one among SL grafts (at 89 post-operative day –POD- for severe cholestasis) and two in nSL group (at 5 and 70 POD, respectively, for vascular complications). Only one patient died, in group SL, for sepsis shortly after re-LT. Grafts' survival at 30, 60 and 90 days was 100%, 100% and 95% in SL group and 94, 92 and 92% in nSL group (log-rank test NS).

Conclusions

SL performance did not differ from those of nSL either as graft/transplant complications and as retrieval damages, although in SL group a wiser graft evaluation have been adopeted as suggested by the more common use of donor liver biopsy. nSL were more commonly transplanted in worse recipients as expressed by the higher use of IL- 2 inhibitor. Nevertheless, grafts' survival was similar between the two groups. At most in our experience, in NITp area SL performs as the grafts retrieved by the same teams of the LT centers. Our personal results need to be confirmed.

References

1. S. Feng, N.P. Goodrich, J.L. Bragg-Gresham, D.M. Dykstra, D. Punch, M.A. De Roye, S.M. Greensteinf and R.M. Merion. Characteristics Associated with Liver Graft Failure: The Concept of a Donor Risk Index. American Journal of Transplantation 2006; 6: 783–790