



Comparison of the safety between modified right lobe graft and extended left lobe graft in small-for-size graft

¹Ho Joong Choi, ²Gun Hyung Na , ¹Jin Ha Chun , ¹Young Kyoung You

¹Surgery, Seoul St. Mary's Hospital, The Catholic University of Korea, Seoul, Korea

²Surgery, Bucheon St. Mary's Hospital, The Catholic University of Korea, Bucheon, Korea

COI Disclosure Information

I have no financial relationships to disclose.

Introduction

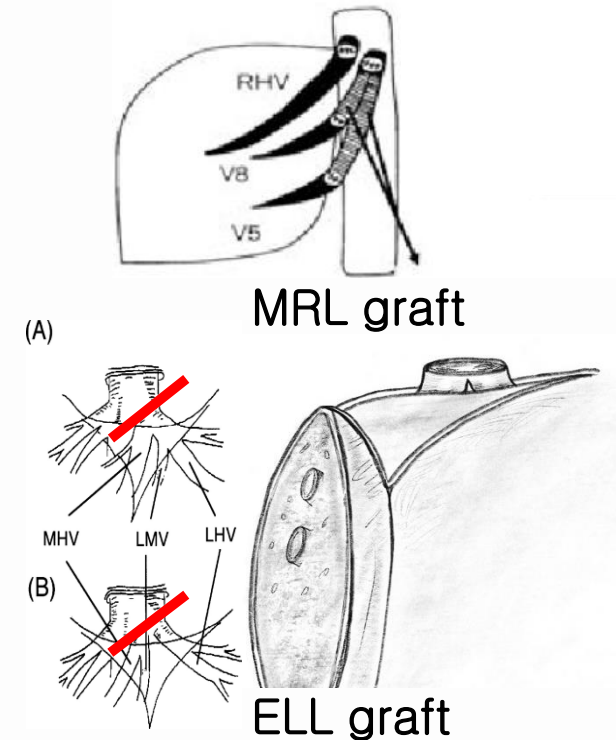
- Adequate graft volume: $GRWR > 0.8$ & donor safety ($FLR > 30\%$)

Donor shortage, condition of recipient, ... → small for size graft

- Small for size graft
 - Small-for-size graft (SFSG) corresponds to a graft weight $<0.8\%$ of recipient weight or a graft volume $<40\%$ of recipient's standard liver volume (SLV)
 - Recently, graft size is not an essential factor in small-for-size syndrome.
 - However, small-for-size grafts (SFSG) are still an important cause of early allograft dysfunction (EAD) in living donor liver transplantation (LDLT).
 - Small for size syndrome (SFSS):
 - portal hypertension and graft dysfunction
 - exclusion of other causes, such as vascular or biliary complications or rejection

Patients and Method

- From June 2009 to August 2023, in LDLT, there were 42 patients with a graft recipient weight ratio (GRWR) of 0.8 or less at our center.
 - 31 patients underwent LDLT with the modified Rt. Lobe (MRL) graft (MRL graft - V5, V8 reconstruction by Dacron graft)
 - 11 patients underwent LDLT with the extended Lt. lobe (ELL) graft. (ELL graft - MHV + LHC trunk, without caudate)
- Postreperfusion portal pressure of <15 mm Hg
 portal blood flow of <250 mL/min/100 g graft weight
 → No inflow modulation
- In these two groups, the recipient outcomes were compared according to the type of graft.
- The medical records of LDLT with SFSG at Seoul St. Mary's Hospital were retrospectively reviewed.



Results - Demographics

	MRL (n=31)	ELL (n=11)	p
Age	50.48 ± 10.99	55.18 ± 8.54	0.21
Sex (male)	26 (83.9%)	4 (36.4%)	0.01
Cause of disease			0.69
HBV	16 (51.6%)	5 (45.5%)	
HCV	1 (3.2%)	0	
Alcohol	8 (25.8%)	5 (45.5%)	
Others	6 (19.4%)	1 (9.1%)	
ABOi	5 (16.1%)	0	0.16
BMI	29.18 ± 4.95	22.22 ± 3.08	<0.01
GRWR	0.74 ± 0.06	0.71 ± 0.05	0.14
Child	9.23 ± 3.04	8.09 ± 3.39	0.31
MELD score	18.68 ± 11.30	15.27 ± 10.20	0.39
HCC	14 (45.2%)	4 (36.4%)	0.61
Op. time	486.74 ± 118.37	389.27 ± 63.29	0.01
PRC	11.35 ± 7.45	7.09 ± 6.52	0.1
EBL	4443.55 ± 4249.01	3327.27 ± 3928.38	0.45

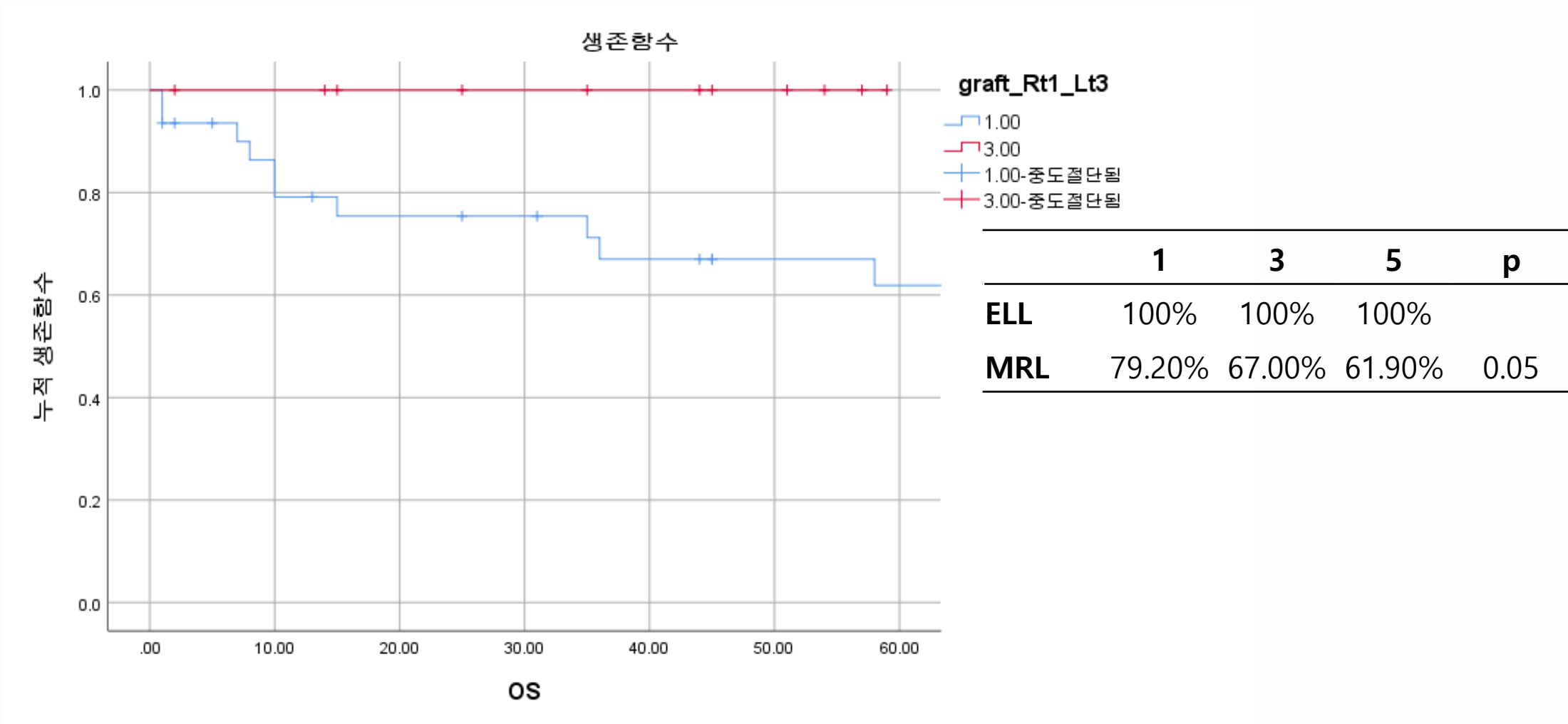
Results – Postop. Graft function

	MRL (n=31)	ELL (n=11)	p
JP removal (day)	25.38 ± 13.44	25.14 ± 10.61	0.96
peak AST	630.55 ± 1000.93	336.0 ± 249.58	0.14
peak ALT	527.71 ± 727.95	414.27 ± 277.74	0.47
peak total bilirubin	10.41 ± 8.37	8.62 ± 6.59	0.48
peak PT INR	2.24 ± 0.47	2.27 ± 0.38	0.87
POD7 total bilirubin	3.31 ± 3.82	4.42 ± 5.29	0.54
POD7 PT INR	1.22 ± 0.13	1.22 ± 0.14	0.93
Normalization total bilirubin (day)	19.64 ± 31.35	13.45 ± 13.62	0.39
Normalization PT INR (day)	15.83 ± 40.36	8.55 ± 6.46	0.35
Early allograft dysfunction	3 (9.7%)	1 (9.1%)	0.95
SFSS grade			0.59
A	6 (19.4%)	1 (9.1%)	
B	1 (3.2%)	0	

Post –LT complication & outcome

	MRL (n=31)	ELL (n=11)	p
HCC recurrence	4 (14.8%)	0 (0.0%)	0.28
post RRT	8 (25.8%)	0 (0.0%)	0.06
HA Cx	1 (3.2%)	0	0.54
PV & HV Cx	0	0	
Bile leak	6 (19.4%)	3 (27.3%)	0.58
biliary stricture	14 (45.2%)	1 (9.1%)	0.03
Hospital stay	49.71 ± 62.33	25.36 ± 7.16	0.04
Hospital mortality	2 (6.5%)	0	0.39
re-LT	2 (6.5%)	0 (0.0%)	0.39
TCMR	8 (25.8%)	1 (9.1%)	0.25

Results – OS



Conclusions

- In SFSG, ELL graft shows a better prognosis than MRL graft.
 - EAD: 9.7% (MRL) vs 9.1% (ELL)
 - SFSS grade: 22.6% (MRL) vs 9.1% (ELL), but $p = 0.59$
 - Hospital mortality: 2 (6.5%, MRL) vs 0 (ELL), but $p = 0.39$
 - Only, hospital stay, 49 days (MRL) vs 25 days, $p = 0.04$
- 5-year OS: 61.9% (MRL) < 100% (ELL)
- In conclusion,
in LDLT using SFSG, ELL graft can be performed more safely than MRL graft.

Thank you for your attention!!

