THE CATHOLIC UNIVERSITY OF KOREA
CATHOLIC MEDICAL CENTER

Comparison of pure laparoscopic donor left hepatectomy and pure laparoscopic donor right hepatectomy in the laparoscopic era.

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COI Disclosure Information

I have no financial relationships to disclose.

Introduction

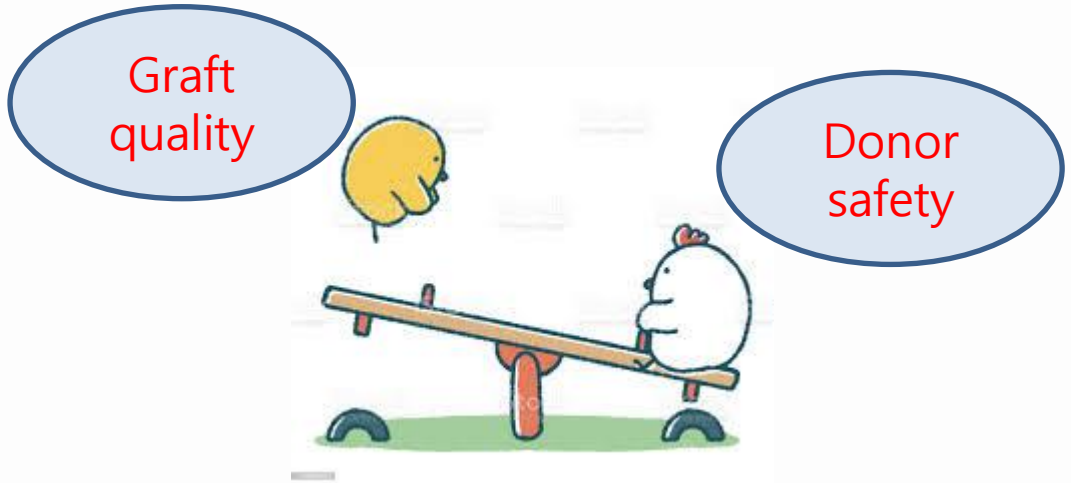
- History of pure Lap. donor surgery
  - 2002, Lap. Lt. Lat. Sectionectomy, adult-to-child – 1st
  - 2013, Pure Lap. donor right hepatectomy
  - 2013, Pure Lap. Donor left hepatectomy
  - 2014, 1st PLDRH, Korean report

- Pure laparoscopic donor hepatectomy (PLDH) must be performed carefully.

  -> for donor safety and quality grafts (expert, both LLR & donor surgery)

- In korea, high volume LLR + high volume LDLT

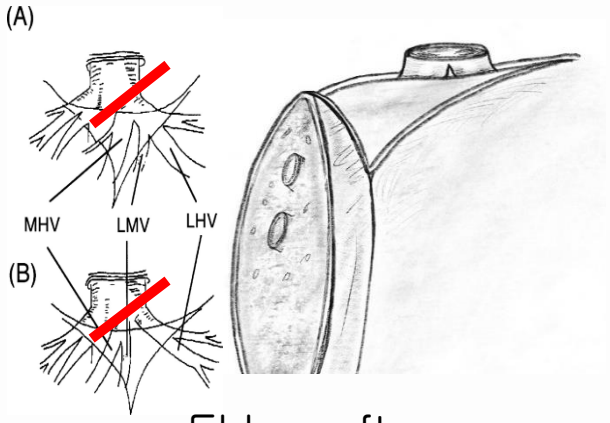
  -> PLDRH ↑



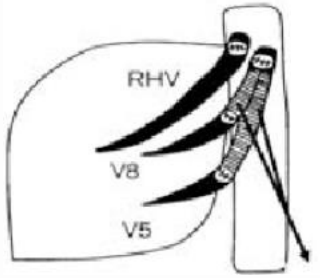
Method

- Seoul St. Mary's Hospital,
  - From March 2019, PLDRH
  - From April 2022, PLDLH

- From March 2019 to September 2023, PLDH was performed on 124 patients at our center.
- PLDLH: 11 patients - extended left lobe (ELL) graft
  (MHV + LHC trunk, without caudate)
- PLDRH: 113 patients - modified Rt. lobe (MRL) graft
  (V5, V8 reconstruction by Dacron graft)



ELL graft



MRL graft

- In these two groups, donor safety was first compared
  and then, the recipient outcomes were compared according to the type of graft.
- The medical records of PLDH at Seoul St. Mary's Hospital were retrospectively reviewed.

Results - Demographics

	PLDRH (N=103)	PLDLH (n=11)	p
Age	37.7 ± 13.4	31.9 ± 7.5	0.16
Sex (men)	50 (48.5%)	10 (90.9%)	0.01
BMI	23.5 ± 2.9	24.9 ± 4.6	0.39
AST	20.3 ± 8.1	20.1 ± 5.1	0.95
ALT	19.1 ± 13.5	19.2 ± 6.3	0.97
T.bil	0.7 ± 0.4	0.6 ± 0.5	0.46
aAlbumin	4.6 ± 0.5	4.6 ± 0.2	0.85
PT INR	1.0 ± 0.1	1.0 ± 0.0	0.39
Platelet count	249784.3 ± 66121.0	237090.9 ± 50427.1	0.54
Staetosis (%)	2.9 ± 3.3	3.6 ± 3.7	0.5
PV variation	8 (7.8%)	0 (0%)	0.36
BD variation	43 (41.7)%	7 (63.6%)	0.16
Liver volume (total)	1289.6 ± 257.9	1484.2 ± 182.2	0.03
Graft volume	786.0 ± 154.9	490.4 ± 135.3	<0.01
FLR (%)	38.4 ± 8.2	67.0 ± 7.5	<0.01

Results – perioperative outcome of Donor

	PLDRH (N=103)	PLDLH (n=11)	p
Op. time	304.8 ± 35.2	328.2 ± 38.7	0.04
Liver out	220.1 ± 37.6	240.7 ± 24.7	0.08
Ischemic time	17.6 ± 6.7	14.5 ± 7.0	0.14
PRC transfusion	2 (1.9%)	0 (0%)	0.64
Peak T. bil	3.4 ± 1.8	1.6 ± 0.3	<0.01
Peak INR	1.4 ± 0.1	1.2 ± 0.1	<0.01
POD5 T. bil	1.8 ± 1.4	0.9 ± 0.4	0.03
POD5 INR	1.2 ± 0.2	1.1 ± 0.1	0.19
POD5 Albumin	3.4 ± 0.4	3.6 ± 0.3	0.17
POD5 platelet	171980.6 ± 47869.5	191272.7 ± 46223.6	0.2
Normal T. bil	6.7 ± 4.0	4.7 ± 4.6	0.13
Normal PT (INR)	4.8 ± 4.5	3.6 ± 6.7	0.45
Clivien-Dindo ≥ III	4 (3.9%)	1 (9.1%) Ileus	0.42
Bile leak	3 (2.9%)	0 (0.0%)	0.57
reop.	1 (1.0%) Wound bleeding	1 (9.1%) Ileus	0.06
Hospital stay	9.5 ± 3.1	7.9 ± 1.2	0.1

Results –Outcome of Recipient

	PLDRH (N=103)	PLDLH (n=11)	p
GRWR	1.2 ± 0.2	0.9 ± 0.1	<0.01
J/P removal (day)	22.2 ± 22.6	24.5 ± 16.1	0.75
Hospital Stay (day)	25.7 ± 20.0	28.3 ± 23.3	0.68
Hospital Mortality	8 (7.8%)	0 (0.0%)	0.34
Bile duct complication	24 (23.3%)	2 (18.2%)	0.7
Bile leak	11 (10.7%)	0 (0.0%)	0.25
Bile duct stenosis	13 (12.6%)	2 (18.2%)	0.6

Conclusions

- In LDLT, it is well known that although larger grafts are helpful for the recipients, they are harmful for the donors

- Major concern of the Lt. lobe graft in adult-to-adult LT: SFSG
- Risk of small for size graft -> selection of adequate volume and/or inflow modulation

- Anatomical variation on Rt. Side

  -> Extended Lt. liver graft: simple anatomy, technically favorable

- In terms of donor safety, PLDLH is better than PLDRH.
- Also, PLDLH can be performed as safely as PLDRH.

  -> If GRWR is sufficient, PLDLH needs to be implemented more actively.

Thank you for your attention!!