

### 3. Left hepatic artery vs. right hepatic artery

Unlike use of the LLS in LDLT, aortic division can be an issue in SLT in order to reduce the complications in pediatric LTs. However in large volume LDLT centers, the procurement of aortic conduit is not mandatory. In cases of multiple arteries for one of the grafts, the aortic conduits must be allocated to that graft in order to improve the outcome of the recipients.

### References

1. A. Zarrinpar and R. W. Busuttil. Liver transplantation: past, present and future. *Nat Reviews Gastroenterol Hepatol* 2013;10:434-40.
2. K. W. Lee, A. M. Cameron, W. R. Maleya, D. L. Segev and R. A. Montgomery. Factors Affecting Graft Survival After Adult/Child Split-Liver Transplantation: Analysis of the UNOS/OPTN Data Base. *American Journal of Transplantation* 2008;8:1186-96.
3. Korean Network for Organ Sharing(KONOS). 2010 Annual Report [Internet]. Seoul : KONOS;2011[cited 2012 Apr 10] available from: <http://konos.go.kr>.
4. Korean Network for Organ Sharing(KONOS). 장기이식업무 규정 및 지침 [Internet]. Seoul : KONOS; 2011[cited 2012 May 3] available from: <http://konos.go.kr>
5. Suh KS, Lee HW, Shin WY, Cho EH, Yi NJ, Lee KU. Split Liver Transplantation. *J Korean Soc Transplant* 2007;21:135-9.
6. Choi YR, Lee KW, Hong G, Kim H, Park MS, Suh S, You T, Lee HW, Yi NJ, Suh KS. Current Status and Problems of Allocation System in Liver Transplantation for Children in KOREA. 2012, submitted
7. Vagefi RA, Parekh J, Ascher NL, Roberts JP, Freise CE. Outcome with split liver transplantation in 106 recipients: The University of California, Sa Francisco, Experience from 1993 to 2010. *Arch Surg* 2011;146:1052-9.
8. Kasahara M, Sakamoto S, Shigeta T, et al. Reducing the thickness of left lateral segment grafts in neonatal living donor liver transplantation. *Liver Transpl* 2013;19:226-8.
9. Kasahara M, Sakamoto S, Fukuda A, et al. Living donor liver transplantation with hyper-reduced left lateral segment grafts: a single center experience. *Transpl* 2013;15:750-4.
10. Jin GY, Yu HC, Lim HS, Moon JI, Lee JH, Chung JW et al. Anatomical variations of the origin of the segment 4 hepatic artery and their clinical implications. *Liver Transpl* 2008;14(8):1180-4.

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### Symposium 3 (Video, How I do it?) Unusual hepatectomy

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#### 1. Hot to get the oncologic and patient safety in central hepatectomy for the huge HCC

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Central bisectionectomy of the liver removes segments 4, 5, and 8, and this is a technically demanding operation because it requires two transaction planes. It is optimal operation method in centrally located tumor to preserve of remnant liver as much as possible not only for the oncologic safety but also for patient safety. More bleeding and higher incidence of bile duct injury is obstacles for this procedure in comparison to standard hemihepatectomy or segmentectomy. Seventeen patients who had HCC underwent central bisectionectomy from Jan 2001 to Oct 2013,.

For the central hepatectomy, hepatic parenchyme transaction was done with CUSA applying hanging maneuver for most of the patients. In hilar area which tumor was contacted to Glissonean pedicle, Kelly-clamp method was used for avoiding bile duct injury and to prevent breaking the tumor capsule.

For the patient with the tumor firmly attached or invaded to the diaphragm, partial resection of the diaphragm is mandatory. After liver resection, intraoperative cholangiography may be necessary for checking bile duct injury with bile leakage. In conclusion, for huge tumors located in the hilar area, central bisectionectomy is optimal method for complete resection of tumor with more preserving non-tumorous hepatic parenchyme for safety of the patient.

We report central bisectionectomy for the giant hepatocellular carcinoma located on the hilar area to evaluate whether this procedure represent a valuable technique in this situation.

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## 2. Totally laparoscopic living donor right hepatectomy

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Laparoscopic approach for hepatectomy is known to reduce hospital stay, decrease morbidity, improve cosmetic results and allow early return to normal life compared to open surgery. Living donors would be the patient group who would benefit most from laparoscopic approach but due to technical difficulties it has not been performed much for right hepatectomy. The author presents living donor right hepatectomy done by totally laparoscopic approach.

The right hepatectomy was done as usual manners as in open surgery. In short, after the round ligament, the falciform ligaments were dissected, the right side of the liver was mobilized up to the IVC. The right hepatic artery and right portal vein was isolated after division of the cystic artery and duct and clamped with bulldog clamp to verify the demarcation line between left and right, but was left intact during the whole procedure and the inflow control was not done. Ligasure was used to divide the parenchyma close to the capsule, but CUSA along with bipolar electro-

cautery was used for deeper dissection. After most of the liver parenchyma was divided, the bile duct was divided. The whole glissonean structure other than the artery and portal vein was left intact to preserve the microcirculation around the biliary tree to decrease possible bile duct complication in the recipient. The remnant bile duct was closed using prolene 5-0 in a continuous fashion. The retrieval bag was wrapped around the graft and 12cm Pfannentiel incision was done before division of the artery or veins to decrease warm ischemic time. Double clips were used for ligation of the artery and divided. To not sacrifice any length of PV and HV, one sided Endo-TAE was applied on the remnant donor side and cut along the stapler line after applying only a bulldog clamp on the graft side veins. The back table graft perfusion was done within 5 minutes of warm ischemic time. The donor did not require transfusion, recovered without any complication and was discharged on day 7. The recipient recovered uneventfully.

Living donor right hepatectomy by totally laparoscopic approach, although technically demanding, may be done safely in centers specialized for living donor liver transplantation and laparoscopic liver surgery. It may offer good cosmetic outcome with quicker return to normal life as long as it is done safely.

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## 3. Laparoscopic anatomic right anterior sectionectomy of liver using a hanging maneuver and glissonian approach

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### Introduction

Laparoscopic anatomical right anterior sectionectomy of liver is rarely reported due to large cut-surface area and difficulty of bleeding control.