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Laparoscopic anatomic liver resection of segment 2 by Glissonean approach

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Disclosure of the Conflict of interest

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In relation to this presentation, I declare that there are no conflicts of interest.

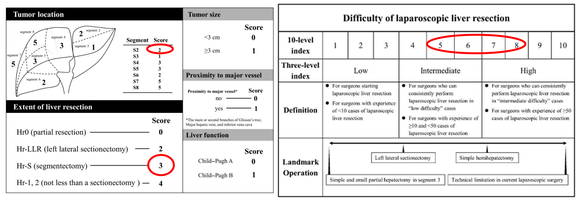
Background

- Anatomic liver resection (ALR) has been established to eliminate the tumor-bearing hepatic region with preservation of the remnant liver volume for liver malignancies.
- Recently, laparoscopic ALR has been widely applied despite that it is technically demanding.
- Although laparoscopic left lateral sectionectomy would be useful for tumors in segments 2, the preservation of the nontumor-bearing segment 3 could not be often considered.
- In this study, we present the feasibility and technical aspects of laparoscopic segmentectomy 2.

Methods

- In all patients, preoperative 3D simulation images from dynamic CT were reconstructed using a 3D workstation.
- The layer between hepatic parenchyma and the Glissonean pedicle of segment 2 (G2) was dissected to encircle the root of G2.
- After clamping or ligation of the G2, 2.5mg of ICG was injected intravenously to identify the boundaries between the segment 2 and 3 with negative staining method under near-infrared light.
- Parenchymal transection was performed from the caudal side to the cranial side according to the demarcation on the liver surface and the intersegmental plane on which the main trunk of the left hepatic vein was exposed.

Laparoscopic Segmentectomy 2

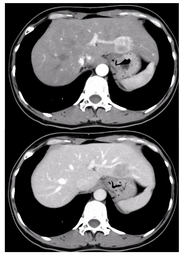


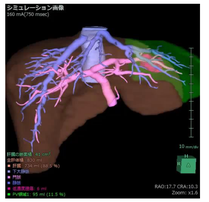
Ban D, et al. JHBPS 2014

5 ≦ Difficulty score ≦ 8

Case presentation

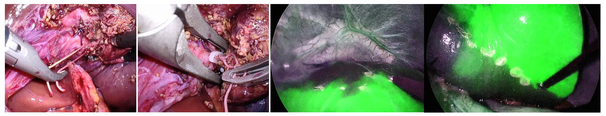
- 47 years old, woman, S2, 3.0cm, Suspect of HCC, Final diagnosis: AML



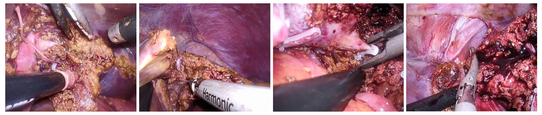


Difficulty score 6

Photograph of the operative field



Encircling of the G2 | Clipping of the G2 | Negative staining with ICG fluorescence imaging (dorsal side) (ventral side)



Parenchymal transection (dorsal side) | Parenchymal transection (ventral side) | Cutting of the V2 | Removal of S2

Results

Our cases who underwent laparoscopic segmentectomy 2 by Glissonean approach

No.	Sex /Age	Final diagnosis	Tumor size (cm)	ICGR15 (%)	Difficulty score	Op time (min)	Blood loss (ml)	Estimated resecting liver volume (ml)	Resected liver weight (g)	Morbidity	LOS (days)
1	M/69	HCC	3.3	12.2	6	247	20	98	94	None	7
2	M/62	HCC	4.5	8.3	6	302	100	161	135	None	9
3	F/47	AML	3	4.6	6	229	0	96	109	None	7
4	M/62	CRLM	5.8	3.5	6	321	0	117	203	None	8
5	M/60	CRLM	5.5	4.4	6	286	50	110	90	None	8

AML, angiomyolipoma

The median operative time for five patients were 286 minutes. The median blood loss were 20 ml. No transfusion was necessary.

Conclusions

Laparoscopic segmentectomy 2 by Glissonean approach is a feasible and safe procedure to preserve nontumor-bearing hepatic region.