Limited Central Hepatectomy for Centrally Located Tumors: Is There a Place for Standardization?

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ABSTRACT

Anatomical central hepatectomy is technically demanding and is often excessive. It has an increased risk for insufficient remnant liver volume, especially in case of P8 dorsal pedicle for segment 7 and/or P5 dorsal for segment 6, and/or abnormal background liver. On the contrary, limited central hepatectomy (LCH) for centrally located tumors, based on preserving the P8 dorsal and some of P5 and P4 pedicles (depending on tumor placement) is conservative, and therefore has a low risk for insufficient remnant liver volume. It is less technically demanding, when compared to anatomical central hepatectomy. The right side of the resection plane is driven along the P8 dorsal pedicle intersecting the P8 ventral pedicle and as few of the P5 pedicles as possible. The left side of the resection plane is established according to tumor placement anywhere in between the Cantlie's plane and the falciform ligament. The video presents 5 cases that support the conclusion that LCH may be standardized, with good results, especially when using intraoperative ultrasound guidance.

Key words: liver resection, intraoperative ultrasound guidance, central hepatectomy

Background

Anatomical central hepatectomy (S4+S5+S8):

- Often excessive (as all major hepatectomies), according to the modern concept of conservative liver surgery;
- Risk for insufficient remnant liver volume, in case of:
 - P8d for S7 (approx. 45%), or P8d for S7 and P5d for S6 (approx 20%)¹
 - abnormal background liver (steatosis, cirrhosis);
- Technically demanding (hilar approach, RHV exposure);

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Central hepatectomy in case of P8 and/or P5 for S7 and/or S6

Limited central hepatectomy (LCH)

- based on preserving P8d, some of P5 & P4 pedicles - depending on tumor(s) placement
- conservative - no sectional pedicle approach;
- no risk for insufficient remnant liver volume
- less technically demanding - no hilar approach, no RHV exposure;
- facilitated by intraoperative ultrasound (IOUS) guidance

Limited central hepatectomy

Conclusions

- Limited central hepatectomy:
 - Feasible
 - Low morbidity and mortality
 - May be standardized, especially when using IOUS guidance for mapping and intersecting subsegmental pedicles

Conflict of interest

All author declare that they have no conflict of interest.

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