

# Technical tips for liver resection for tumors in difficult location

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Laparoscopic isolated resection of liver segment 7 or 8 (LR7/8) is technically demanding and has been considered poor indication for laparoscopic surgery. Further, no standard minimal access approach to LR7/8 exists to date. Therefore we resect these posterosuperior segments via a trans-abdominal only (AO) approach or more often via a combined trans-diaphragmatic/trans-abdominal (CDA) which we have developed to overcome challenges.

## Methods

Among consecutive 472 patients undergoing laparoscopic liver resection, 44 patients underwent LR7/8; 25 with the CDA approach and 19 with AO approach. Outcomes after LR7/8 using the CDA approach were compared with those using the AO approach.

## Results

The most common indication was colorectal liver metastasis. The CDA approach was used more frequently for profound tumors and for larger tumors despite the difference was not significant. 11 patients (44.0%) in the CDA group and 8 patients (42.1%) in the AO group underwent additional laparoscopic liver procedure. Operative time was longer in the CDA group than the AO approach but blood loss or blood transfusion or conversion (0 versus 5.3%) were not significantly different between the two groups. Length of the surgical margin and incidence of involved margin (8.0 versus 5.3%) were similar between the two groups. Incidence of postoperative complications with Clavien-Dindo classification grade 3 or greater were 16.0 and 21.1 % ( $p=0.710$ ), respectively, and mortality was zero.

## Conclusion

The CDA approach allowed us better visualization and improved access to the Sg 7-8 and enabled better control of bleeding during LR7/8. The CDA approach is safe and feasible and would be a good option for LR7/8 of a large or profound lesion.

Videos will show some tips and tricks during these resections.