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## ICG-guided Laparoscopic Anatomical Segment VI Resection For Radiologically Responding Colorectal Liver Metastases

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**Background :** With neoadjuvant chemotherapy, an increasing proportion of patients with colorectal liver metastases proceed to liver metastasectomy. In patients with radiologically responding colorectal liver metastases, intra-operative ultrasound (IOUS) may be challenging. Anatomical segmental resection ensures complete resection. We present a case whereby negative-staining indocyanine green (ICG) facilitated anatomical segment VI laparoscopic liver resection in a patient with deep-seated and radiologically responding colorectal liver metastases.

**Methods :** A 59-year-old man presented with synchronous rectosigmoid adenocarcinoma and 3 multifocal segment VI liver metastases, characterized on MRI. He received neoadjuvant chemotherapy with 7 cycles of XELOX with good radiological response. A robotic-assisted laparoscopic ultra-low anterior resection with ileostomy creation followed by a reversal of ileostomy and laparoscopic anatomical segment 6 liver resection were performed six weeks apart. After reversal of ileostomy, cholecystectomy was performed followed by hilar dissection to isolate the segment VI inflow pedicle, which was test-clamped to confirm appropriate ischemic demarcation prior to ligation. 2.5mg of indocyanine green was administered intravenously for negative-staining, and parenchymal transection proceeded with intermittent ICG guidance for intra-segmental plane identification.

**Results :** The operative time was 341 minutes with a total Pringle's time of 138 minutes, and estimated blood loss of 300ml. The patient had an uneventful post-operative recovery and was discharged on post-operative day 4. The final histology of the liver resection revealed no residual metastatic disease.

**Conclusions :** This video demonstrates the benefits of negative-staining ICG guidance in facilitating anatomical liver resection, a useful tool in patients with radiologically responding colorectal liver metastases that may be occult on IOUS.

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