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Pure laparoscopic right hemihepatectomy for benign hepatic neoplasm in an obese patient: case report

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Purpose: Laparoscopic major hepatectomy is feasible but difficult and should be performed only by surgeons experienced in both open and laparoscopic liver surgery. Especially, laparoscopic right hepatectomy remains challenging because of technical factors, including inflow control, mobilization of a large right liver, and parenchymal transection.

Methods: We present a case of 17-year-old male patient with a hepatocellular adenoma treated by pure laparoscopic right hemihepatectomy using liver hanging maneuver and the ventral approach.

Results: His body mass index was 40.1 kg/m². Following induction of general anesthesia, five trocars were placed in the upper abdomen. Because of large amount of visceral fat, it was not possible to perform the retrohepatic dissection sufficiently at the initial stage of surgery. After inflow control using an individual ligation, the demarcation line was identified and marked with electrocautery. After some progress of parenchymal transection, additional retrohepatic dissection was performed. Then, a nelaton catheter was inserted in a cranial to caudal fashion for liver hanging maneuver. A 10 cm length of upper midline incision was made for extraction of the transected hemiliver. Operation time was 490 minutes and blood loss was 450 ml. There were no postoperative morbidities and he discharged at postoperative 11 days.

Conclusion: The surgical strategy of pure laparoscopic right hemihepatectomy using liver hanging maneuver and the ventral approach seems feasible even though an obese patient. More clinical experience is required to address the advantages, limitations, and reproducibility of this technique.