LAPAROSCOPIC TOTAL CAUDATE HEPATECTOMY FOR LARGE HEPATIC TUMOR

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Background

Laparoscopic hepatectomy has emerged as a safe and effective alternative surgical approach for liver tumors in recent years. Compared to the traditional open approach, it offers several advantages, including reduced postoperative morbidity, less blood loss, and shorter hospital stays.[1] However, laparoscopic resection of the caudate lobe remains a significant surgical challenge. The posterior location of the lobe complicates access, and the risk of bleeding is heightened due to the presence of several short hepatic veins that drain directly into the inferior vena cava (IVC), particularly when managing larger tumors.[2] Here, we present a case of laparoscopic caudate lobe resection for a large tumor located in segment 1 (S1).

Method

This is the case of a 51-year-old female with a 9.6 cm tumor located in the caudate lobe. Preoperative tri-phase liver computed tomography revealed heterogeneous mild enhancement with persistent enhancement rather than early washout. Preoperative biochemistry results were within normal limits, and the indocyanine green retention rate at15 minutes post-injection was 12%. The patient was positioned in a modified lithotomy position.

The surgical approach involved tracing the cystic plate to locate the left and right Glissonean pedicles. We performed intermittent hemi-Pringle maneuvers every 15 minutes while approaching the caudate lobe from the right, left, and cranial sides. The G1a and G1c pedicles were ligated whenever possible. The middle hepatic vein and the right posterior pedicle were identified as the upper and lateral borders of the resection, respectively. All short hepatic veins were carefully ligated, and the caudate lobe was meticulously dissected away from the IVC.



Fig. 1
Large heterogeneous mild enhancement with persistent enhancement tumor in S1

Result

The total operative time was 270 minutes, with an estimated blood loss of 1000mL. No intraoperative blood transfusion was required. The patient was discharged on postoperative day 5 without complications. Pathology revealed a solitary fibrous tumor, composed of mildly to moderately atypical spindle cells.

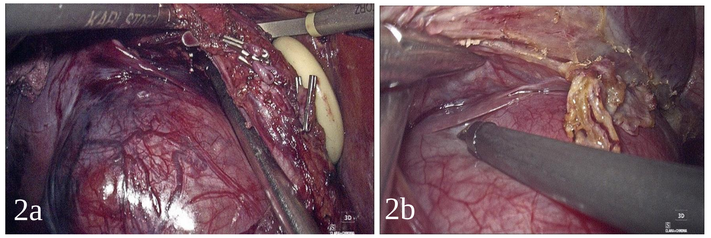


Fig. 2 Approach the large S1 tumor from both right side(2a) and left side(2b)

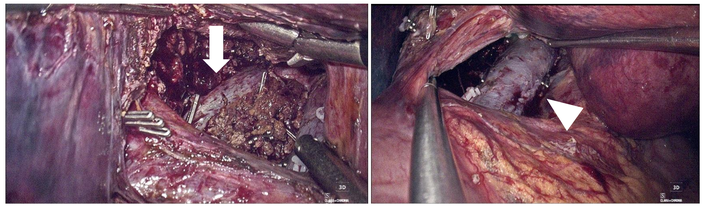


Fig. 3 Final view showing the exposed hilar plate, right hepatic(arrow) vein and IVC(arrow head)

Conclusion

Our experience demonstrates that laparoscopic total caudate hepatectomy is feasible and safe, with potential benefits of laparoscopic liver resection for selected patients.

Reference

1. Wang ZY, Chen QL, Sun LL, He SP, Luo XF, Huang LS, et al. Laparoscopic versus openmajor liver resection for hepatocellular carcinoma: systematic review and meta-analysisof comparative cohort studies. BMC Cancer 2019;19:1047.
2. Hajibandeh S, Kotb A, Evans L, Sams E, Naguib A, Hajibandeh S, Satyadas T.Procedural outcomes of laparoscopic caudate lobe resection: A systematic review andmeta-analysis. Ann Hepatobiliary Pancreat Surg. 2023 Feb 28;27(1):6-19