

## **A Case of Radical Laparoscopic Central Bisegmentectomy with S3 Subsegmentectomy for Multiple Liver Metastases After Chemotherapy**

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### **ABSTRACT**

Hepatic resection remains the only potentially curative treatment for patients with colorectal liver metastasis (CRLM) (1). Moreover, only 15%-20% of patients with CRLM are suitable for surgical resection (2). Herein we present a video case-report of a radical laparoscopic central bisegmentectomy plus S3 subsegmentectomy for multiple liver metastasis after chemotherapy. The patient was a 39-year-old man who was shown to have metachronous multiple liver metastases from sigmoid colon cancer. The size of the tumor in S3 was 7cm, and the size of the tumor in S4/S5/S8 was 13cm. At this point, it was judged that there was no indication for surgery, thus chemotherapy was started. Then FOLFOX+panitumumab was administered for 8 courses and FOLFIRI+panitumumab was administered for 10 courses. The metastatic lesions showed a partial clinical response to the chemotherapy. Because the tumors were limited in S3 and S4/5/8, a radical hepatectomy was thought to be possible. A CT scan revealed that the tumor in S3 was located near the root of G3, while the tumor in S4/S5/S8 was located near the anterior Glissonean pedicle and partially infiltrated G4. To assure resection of the lesion, we performed a laparoscopic central bisegmentectomy plus S3 subsegmentectomy. Then, volumetry was performed based on VINCEN CT. The volume of the remnant liver was 41% ( $K_{rem}=0.077$ ). We confirmed that the operation could be performed safely. Because it was necessary to resect a very large area of the liver in this operation, the degree of difficulty was deemed to be very high. To perform this operation successfully, it was necessary to secure a good surgical view and make good use of the magnified view afforded via the laparoscope. Thus, a cranial-to-caudal direction hepatectomy was performed. The merit of the procedure is that the amount of bleeding is reduced by resecting the liver parenchyma without reversing the direction of the venous branch (3). Even such a difficult operation can be safely performed by devising a thoughtful approach.