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LETTER TO THE EDITOR

Is laparoscopy contraindicated for advanced gallbladder cancer?



To the editor:

Gallbladder cancer (GBC) is the most aggressive malignancy of the biliary tract with extremely poor prognosis. Radical resection is the only potential curative option. For Tis and T1 GBC, laparoscopic cholecystectomy (LC) with an unbroken gallbladder is an appropriate surgical procedure. However, for T2 or more advanced GBC, radical cholecystectomy, comprising liver resection and lymphadenectomy, is essential to achieve an R0 resection. Although LC began the era of laparoscopic surgery, the surgical community is still reluctant to use laparoscopy for GBC for fear of inadequate hepatectomy and lymphadenectomy, and the risk of peritoneal dissemination and port site metastasis [1]. GBC has long been considered as a contraindication for laparoscopic surgery, especially for advanced stage tumor [2]. With the major developments of surgical technology, laparoscopic surgery has been widely accepted as a standard of care for many gastrointestinal malignancies such as colon, stomach, and pancreas cancer, showing similar survival outcomes compared with open surgery [3,4]. Thus, the clinical significance of laparoscopic radical cholecystectomy should be reassessed.

Theoretically, laparoscopic radical cholecystectomy for GBC is feasible. The first concern of laparoscopic radical cholecystectomy is the feasibility of adequate liver resection and lymphadenectomy. The technique of laparoscopic liver resection has already been mature [5]. Komatsu found that laparoscopic major hepatectomy for hepatocellular carcinoma could achieve similar survival outcomes compared with that of open hepatectomy [6]. Furthermore, adequate lymphadenectomy for GBC is critical to reduce postoperative recurrence, and most scholars agree that the retrieval of at least six lymph nodes is essential [7]. Current evidence suggests that laparoscopic lymphadenectomy might yield a similar lymph node count compared with that of the open approach [8]. In our opinion, better magnification in laparoscopy will lead to adequate lymphadenectomy. Earlier studies showed that LC for GBC easily led to peritoneal dissemination and port site metastases [9]. However,

a recent randomized clinical trial showed that laparoscopic surgery does not increase the rate of port-site recurrence [10]. It has been suggested that such complications were caused by accidental perforation of the gallbladder resulting from incautious manipulation, regardless of laparoscopic or open approach.

We reviewed the current literature concerning laparoscopic radical cholecystectomy for GBC. To date, 14 articles, which included 165 patients undergoing an attempt of laparoscopic radical cholecystectomy (five of them via a robotic approach), were retrieved. All patients obtained an R0 resection. Tumor stages of the patients were mainly T1, T2, with few at the T3 stage. The extent of liver resection was mainly a wedge resection of the liver bed (≥ 2 cm) and segment 4b + 5. Extended right hepatectomy was performed in two patients. The majority of the lymphadenectomies were along the cystic duct, bile duct, portal vein, and hilum of the liver, and extended lymphadenectomy was performed in fewer patients. Conversion was required in 15 (9.1%) patients. Four patients underwent bile duct resection and biliojejunal reconstruction; however, none of them developed postoperative complications related to the procedure. Postoperative complications occurred in 18 patients (10.9%) with no mortality. No port site recurrence was found during follow-up. The overall survival of laparoscopic radical cholecystectomy was acceptable. Yoon reported the largest number of laparoscopic radical cholecystectomy with 45 patients, and the disease-specific 5-year survival rate was 94.2% [11]. Shirobe reported that the 5-year survival rate of laparoscopic radical cholecystectomy for T2 GBC was 83.3% [12]. Three comparative studies reported similar oncological results between laparoscopic radical cholecystectomy and open surgery, including a comparable number of retrieved lymph nodes and similar overall survival [8,13,14]. Notably, the laparoscopic group showed limited intraoperative blood loss, a shorter hospital stay, and a lower complication rate. Furthermore, secondary laparoscopic radical cholecystectomy after incidental GBC is also feasible [15]; however, routine port site resection is not recommended without gallbladder perforation [16].

In conclusion, although no randomized clinical trial is available, the current literature seems to suggest that laparoscopic radical cholecystectomy is safe and has shown

similar oncological outcomes compared to open approach at highly specialized centers. We especially emphasize the role of gentle handling of the gallbladder and the use of a plastic retrieval bag to reduce the rate of peritoneal dissemination and port site metastasis [17]. We believe that with the accumulated experience of laparoscopic surgeons, the time of laparoscopic radical cholecystectomy for GBC is coming.

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Disclosure of interest

The authors declare that they have no competing interest.

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