Single-Incision Laparoscopic Hepatectomy for Anterolateral Liver Segments

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Introduction

Laparoscopic liver resection yields improved short-term surgical outcomes, whereas the clinical benefits of single-incision laparoscopic hepatectomy (SILH) have not been proved. The study is to compare the surgical outcomes of SILH with those of multi-incision laparoscopic hepatectomy (MILH).

Methods

The study included 52 patients who had undergone SILH and 183 patients who had undergone MILH between January 2010 and December 2017. Short-term outcomes were compared between the two groups after 1:1 propensity score matching. A subgroup analysis of hepatocellular carcinoma (HCC) was also performed after matching, and short-term and long-term outcomes were compared.

One of the commercial single-port access systems (A) and the postoperative transumbilical wound (B).

The laparoscopic view during left lateral sectionectomy (A) and partial hepatectomy of segment 6 (B).

Results

The baseline characteristics of the two groups were similar after propensity score matching. No significant differences were observed in surgical time, blood loss, mortality, and complications between the two groups. Patients in the SILH group had a significantly shorter postoperative hospital stays than those in the MILH group (4.1±1.1 vs 6.1±4.7 d; \( p = 0.019 \)). In the HCC subgroup, patients who had undergone SILH had shorter post-OP hospital stays (4.2±1.2 vs 6.9±5.4 d; \( p < 0.001 \)), wider surgical margins (13.9± 10.9 vs 7.9±8.9 mm; \( p = 0.023 \)), and similar 5-year overall survival and 5-year recurrence-free survival rates compared with patients who had undergone MILH.

Discussion and conclusions

Although the study demonstrated the benefits of SILH, the results of tumors located at posterosuperior segments could not be compared because no such cases received surgery in the SILH group. The SILH group also did not undergo major hepatectomy. Therefore, we conclude the technique exhibits favorable short-term outcomes with regard to post-OP hospital stay and similar long-term oncological results, at least in minor hepatectomy and on anterolateral segments of liver.

References


Overall survival (A) and recurrence-free survival (B) following liver resection, stratified with SILH versus MILH, in the subgroup of HCC.