Totally laparoscopic hepatectomy exposing the vessels around the tumor intended to secure the surgical margin

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Abstract Anatomical hepatectomy (AH) is basically not required for metastatic tumors in terms of oncology, but is required for hepatocellular carcinoma [1–5]; however, the surgeon cannot secure the surgical margin by palpation via a laparoscopic approach. Therefore, AH or partial hepatectomy exposing the vessels around the tumor (PHev) is often better for deep-seated or invisible lesions [6, 7] because unexpected exposure of the tumor on the cutting plane can be avoided by creating a cutting plane on the side of exposed vessels. From August 2008 to December 2012, we performed totally laparoscopic AH or PHev for 29 patients (AH in 21 patients and PHev in 8 patients) to secure the surgical margin of metastatic tumors [8, 9]. The median operative time was 329 (range 147–519) min, with median blood loss of 141 (range 5–430) g. Conversion was performed for one patient whose stump of the Glissonean branch was positive in a frozen section. Additional hepatectomy was performed via an open approach. Postoperative morbidity rate was 20.7 % (peroneal palsy in two patients, ileus in one patient, biloma in one patient, and pulmonary embolism in one patient). Mortality was zero. The median length of hospital stay after surgery was 9 (range 4–21) days. Only one patient, who underwent extended posterior sectorectomy for a 4.2-cm tumor

developing close to the right main Glissonean pedicle, had a microscopically positive margin, because the tumors were exposed on the cutting plane. The embedded video demonstrates hepatectomy of the dorsal half-segment of the right anterior sector, during which the liver was divided at the anterior fissure [10] and the border between the anterior and posterior sector. Totally laparoscopic hepatectomy exposing the vessels around the tumor can be performed safely and is useful to secure the surgical margin in patients with a metastatic tumor.

Keywords Laparoscopic hepatectomy · Anatomical hepatectomy · CUSA · Glissonean pedicle transection method

Disclosures Drs. Goro Honda, Masanao Kurata, Yukihiro Okuda, Shin Kobayashi and Katsunori Sakamoto have no conflicts of interest or financial ties to disclose.

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