



Liver regeneration is less than predicted after the first but not after the second resection in patients who received chemotherapy and underwent staged hepatectomy for metastatic colorectal cancer

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Objectives

Studies that compare liver regeneration among the steps of staged hepatectomy in patients who received chemotherapy are lacking. The aim of this study is to investigate the volumetric changes after staged major liver resection in patients with colorectal metastases.

Methods

Four patients with multiple liver metastases of colorectal origin, initially unresectable (resectional category II), underwent staged liver resection (first stage: right hemihepatectomy, second stage: left lateral bisegmentectomy). All patients received FOLFOX based neoadjuvant and adjuvant chemotherapy. Liver volume was measured by MDCT.

Results

Preoperatively, 10 weeks post-first stage and 10 weeks post-second stage resection, mean measured liver volumes were 1588 ± 235 mL, 1264 ± 208 mL and 1294 ± 222 mL respectively. Development of the oxaliplatin related sinusoidal obstruction syndrome ($n = 2$) did not have a statistically significant impact on volumetric measurements.

Conclusions

In patients who underwent staged hepatectomy while on FOLFOX based chemotherapy for multiple colorectal metastases, liver regeneration is completed at approximately 80% of the preoperative measurement after the first stage resection and returns practically the same volume after the second stage.