

## Repeated liver resection for recurrent HCC

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**Lecture** : Background: Repeat hepatectomy (Hx) is the first treatment of choice for intrahepatic recurrence of hepatocellular carcinoma (HCC). In this study, we evaluated surgical outcomes, long-term survival, and liver regeneration rate after repeat Hx.

Methods: Data were reviewed from 1340 patients with HCC who underwent curative Hx. Among them, 941, 289, and 110 underwent first Hx, second Hx, and third or more Hx, respectively. Surgical outcomes and long-term survival were compared among the groups. In patients undergoing three or more Hx, the regeneration index (the postoperative total liver volume / preoperative total liver volume x 100) was analyzed.

Results: Surgical duration was significantly longer in third or more Hx (median, 6.4 hours) than in second Hx (median, 5.9 hours). Postoperative bile leakage and wound infection were more frequently observed in third or more Hx versus second Hx (12.5% vs 6.2%, [P = 0.04] and 2.9% vs 0.4% [P = 0.03], respectively). Three and 5-year disease-free survival rates were 36.8% and 27.1% in first Hx, 24.4% and 17.9 % in second Hx, and 26.1% and 12.8% in third or more Hx, respectively (P < 0.01 [first Hx vs third Hx], P = 0.95 [second Hx vs third or more Hx]). The 5-year overall survival rates from each resection were similar among the groups (65.3%, 60.5%, 68.2%, respectively). The 5- and 10-year overall survival rates from initial hepatectomy in patients who received third or more Hx were 91.4% and 75.5%, respectively. No significant differences in the regeneration index were observed among the first, second, and third or more Hx groups.

Conclusion: Third or more Hx is technically demanding in terms of surgical duration and morbidity compared with second Hx. However, aggressive repeat resection offers a survival similar to second Hx, leading to cumulative long-term survival from initial resection. The regeneration process is maintained even after repeat Hx.

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