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Is Liver Resection Justified for Multinodular Hepatocellular Carcinoma in Patients with Cirrhosis? A Multicenter Analysis of 1,066 Patients

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Introduction : The role of liver resection for multinodular (\geq 3 nodules) hepatocellular carcinoma (HCC) remains unclear, especially in patients with severe underlying liver disease. We aim to evaluate short-term and long-term outcomes in cirrhotic patients undergoing liver resection for multinodular HCC.

Methods : From a multicenter database, cirrhotic patients who underwent curative liver resection of HCC were enrolled and divided into two groups: the non-multinodular and multinodular HCC groups. Perioperative mortality and morbidity, and overall survival (OS) and recurrence-free survival (RFS) were compared between the two groups.

Results : Among 1,066 cirrhotic patients, 906 (85.0%) had single- or double-nodular HCC (the nonmultinodular group), while 160 (15.0%) had multinodular HCC (the multinodular group). There were no any differences in postoperative 30-day mortality and morbidity between the two groups (1.8% vs. 1.9%, P=0.923, and 36.0% vs. 39.4%, P=0.411, respectively). However, the 5-year OS and RFS rates of the multinodular group were worse than those of the non-multinodular group (34.6% vs. 58.2%, and 24.7% vs. 44.5%, both P<0.001). Multivariable analyses revealed that tumor numbers \geq 5, total tumor diameter \geq 8 cm and microvascular invasion were independent risk factors for decreased OS and RFS after resection of multinodular HCC in cirrhotic patients.

Conclusions : Liver resection could be safely performed for multinodular HCC in patients with cirrhosis, with an overall 5-year survival rate of 34.6%. Tumor number \geq 5, total tumor diameter \geq 8 cm and microvascular invasion were independently associated with decreased OS and RFS after resection in cirrhotic patients with multinodular HCC.

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