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Anatomical resection versus non-anatomical resection for hepatocellular carcinoma: a propensity score matched analysis

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Introduction : The relative benefit of anatomic resection (AR) versus non-anatomic resection (NAR) of hepatocellular carcinoma (HCC) remains controversial. The objective of this study is to review and compare survival outcomes and recurrence rates of HCC according to tumor size and extent of resection.

Methods : Data of patients with HCC who underwent curative surgical resection between January 1999 and December 2009 from Asan Medical Center were retrospectively reviewed. To compare survival outcomes between AR and NAR, propensity score matching (PSM) was conducted according to tumor size. A total of 986 patients were analyzed; 812 patients received AR and 174 patients underwent NAR.

Results : The 5-year OS rate of HCC less than 5cm was 78.1% and 62.4% in AR and NAR, respectively (P=0.002). The 5-year RFS rate of HCC less than 5cm was 48.2% and 36.8% in AR and NAR, respectively (P=0.017). The 5-year OS rate of HCC greater than or equal to 5cm was 48.6% and 47.1% in AR and NAR, respectively (P=0.629). The 5-year RFS rate of HCC greater than or equal to 5cm was 30.4% and 27.5% in AR and NAR, respectively (P=0.462). After PSM, the OS and RFS rate of HCC less than 5cm were significantly better in the AR group. However, in HCC greater than or equal to 5cm, there were no significant difference between the AR and the NAR group.

Conclusions : AR in HCC less than 5cm decreased the risk of tumor recurrence and improved OS. In HCC with diameter over 5cm, AR and NAR showed comparable survival outcomes.

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