

Analysis of Prognostic Factors for Centrally Located Hepatocellular Carcinoma: High risk, Mid risk, and Low risk : A pilot study in a single Chinese institute

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Abstract

BACKGROUND: Reports on the clinical features and prognosis of patients after liver resection for centrally located hepatocellular carcinoma (cHCC) are lacking. This study aimed to clarify the prognostic risk factors for cHCC in a cohort of Chinese patients.

METHODS: We retrospectively reviewed the data from 173 patients who underwent hepatectomy for cHCC in Chinese National Cancer Center from October 2006 to January 2013. We divided patients into three subgroups according to disease-free survival (DFS): high risk (DFS \leq 1 years), mid risk (1 years<DFS \leq 3 years), and low risk (DFS>3 years). Clinicopathological characteristics were compared and prognostic factors were evaluated using univariate and multivariate analyses.

RESULTS: Among all the patients reviewed, 74 patients were enrolled in the high risk group, 67 in the mid risk group, and 32 in the low risk group. The median overall survival (OS) for high risk group was 13.5 months compared to 24.0 months for mid risk group and 45.5 months for low risk group ($p=0.000/0.000$). Univariate analysis identified 9 risk factors for all the cases. When separately analyzed, 68.0% patients of high risk group had risk factors ≥ 4 . 73.1% patients of mid risk group had $2 \leq$ risk factors ≤ 4 and 78.1% patients of low risk group had risk factors ≤ 3 . Multivariate analysis among high risk, mid risk and low risk groups demonstrated that tumors adjacent (<1cm) to major vascular trunks and tumor invasive growth were independent prognostic factors for both DFS and OS. 40.5% patients of high risk group had both the two risk factors, the percentage was 13.4% in mid risk group and 3.1% in low risk group respectively ($p=0.001$). A combined model that included all 9 risk factors had higher accuracy in predicting whether belonging to high risk group. In addition, high risk group was correlated with a significantly higher incidence of tumors adjacent (<1cm) to the inferior vena cava compared with the other two groups (21.6 vs. 11.9 and 3.1%, $p=0.023$).

CONCLUSIONS: Patients of high risk group had more risk factors than those of mid and low risk groups. A prognostic model containing these factors may provide accurate prediction of survival or risk stratification, and cHCC patients with these risk factors should be candidates for adjuvant therapy.