

Liver resection for hepatocellular carcinoma with a zero resection margin

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Background

Liver resection remains a curative treatment option of hepatocellular carcinoma(HCC). However, a wide surgical resection margin (RM) is usually necessary to guarantee total extirpation of HCC tissue. In the past, at least 1mm RM is recommended. When tumor exposes to the resection surface (RM=0) is not recommended or forbidden. Resection of a deep-seated HCC adjacent to major intrahepatic vessels in patients without a sound liver function, resection of such tumor usually causes RM=0. The benefits of liver resection for HCC with RM=0 is rarely addressed. This retrospective study included consecutive of 1905 liver resections for newly diagnosed HCC in a 25-year period especially in patients with RM=0.

Patients and Methods

A retrospective review of liver resection for newly-diagnosed HCC between 1991 to 2015 was conducted. A total 1905 patients who underwent grossly curative liver resection were included in the study. There were divided into three groups according to the resection margin. After removal of the specimen, RM \geq 1mm could be found on 1450 patients (group A) and tumor exposed on the resection margin could be found in 455 patients (group B+C). Among them, a thick fitness tissue 0.1-0.8mm to cover the HCC tissue could be found on 313 patients(group B), and microscopic tumor cells exposed on the resection margin could be found in 142 patients(group C). The short-term and long-term results of the patient without RM were compared. These patients were followed up until July 2017.

Results

After resection, the complication rate in group A (RM \geq 1mm) were 24.6%, compared with 21.4% in group B+C (RM=0). Two patients in group B and 10 patients in group A died after operation. The 5-year disease-free survival(DFS) rates in group A and group B+C were 38.6% and 37.6%, respectively(P=0.989), while the overall survival(OS) rate in group A and group B+C were 62.6% and 59.8%, respectively(P=0.541). The 5-year DFS in group B and group C were 29.0% and 37.4% respectively(P=0.410). While the OS in group B and C were 48.7% and 57.2%, respectively (P=0.075).

Conclusion

Wide resection margin is desirable for HCC resection. However, if gross curative resection is available, a zero resection margin cannot be considered as a contraindication for HCC resection, even histological presence of cancer cell in the resection surface. RM is not a prognostic factor.

