
The Usefulness of Laparoscopic Liver Resection in HCC Patients with Poor Liver Reserve Function

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한형준, 최새별, 김정윤, 이진석, 김동식, 김완배, 송태진, 서성욱, 김영철, 최상룡

Introduction: The laparoscopic technique is becoming one of the treatments of choice for hepatocellular carcinoma. The outcomes of laparoscopic liver resection are not yet clarified. The aim of this study is to evaluate the usefulness of laparoscopic liver resection in patients who have relatively poor liver reserve function.

Method: The sample population was chosen from a group of hepatocellular carcinoma patients who had liver resection by both open and laparoscopic methods from 2004 and 2008. The total of the population is 66 (n=66). Among them, 34 patients had open resection group and 32 patients had laparoscopic resection. In order to determine whether a patient has poor liver function, Indocyanine Green (ICG) retention test was performed in this study. When ICG test result indicates more than 15%, a patient is determined as a poor hepatic reserve function. Then, depending on the ICG test result, a patient with ICG value more than 15% was categorized into ICG high group whereas less than 15% into ICG low group. After classifying according to the ICG test on the sample population, operation time, transfusion amount, complication, and hospital were compared between open resection group and laparoscopic resection group.

Result: The sample population of ICG high group was 21 cases. In ICG high open resection group, wedge was 4 cases, segmentectomy was 2 cases, sectionectomy was 1 cases, left lateral was 2 cases. In ICG high laparoscopic resection group, wedge was 4 cases, left lateral was 6 cases, segmentectomy was 2 cases. The distribution of patient's group had no difference (p=0.453). In operative results, there was no difference in operation time, transfusion amount (p=0.596 & p=0.164) and complication rate between open resection group and laparoscopic resection group (p=0.256). However, significant difference was found in hospital days between the two groups: hospital stay of laparoscopic group was 7.4 days and the open group was 11.4 days (p=0.008). Comparing between open and laparoscopic resection in the low ICG group, the distribution of preoperative and intra-operative characteristics in low ICG group had no difference. But, complication rate of laparoscopic resection group was shorter than open resection group's (p=0.02). Also, hospital stay of laparoscopic group was shorter in ICG less than 15% group (p=0.012).

Conclusion: Laparoscopic liver resection is also safe for patients who have poor hepatic reserve function.