

Oral Presentation I

I-1

# The Prognostic Factors in Patients Who Underwent Hepatic Resection of Colorectal Liver Metastases in the Era of Effective Chemotherapy

Departments of <sup>1</sup>Surgery, <sup>2</sup>Pathology, Seoul National University College of Medicine, Korea

**Sang-Yong Son<sup>1</sup>, Nam-Joon Yi<sup>1</sup>, Kyung-Bun Lee<sup>2</sup>, Geun Hong<sup>1</sup>, Young Min Jeon<sup>1</sup>, Hyeyoung Kim<sup>1</sup>, Kwang-Woong Lee<sup>1</sup>, Kyung-Suk Suh<sup>1</sup>, Duck-Woo Kim<sup>1</sup>, Seung-Yong Jeong<sup>1</sup>, Kyu-Joo Park<sup>1</sup>, Jae-Gahb Park<sup>1</sup>, Kuhn Uk Lee<sup>1</sup>**

**Purpose:** Hepatic resection is generally accepted as the only potential for long-term survival in patients with colorectal liver metastases although the liver lesions were extensive even in the era of effective chemotherapy. The aim of this study was to analyze the prognostic factors associated with the outcome after hepatic resection of colorectal liver metastases.

**Methods:** From January 2003 to December 2008, 226 patients underwent hepatic resection of colorectal liver metastases in Seoul National University (SNU) hospital. We retrospectively reviewed the medical records. The variables considered included disease stage, differentiation grade, site and nodal metastasis of the primary tumor, number and diameter of the lesions, time duration from hepatic resection to recurrence of colorectal liver metastases on any sites (DFI), perioperative carcinoembryonic antigen (CEA) level, use of chemotherapy, type of resection, estimated blood loss, intraoperative transfusions, post-operative complications.

**Results:** The mean age was 69.7 years and 149 (65.9%) patients were male. A total of 23 patients (10.1%) underwent neoadjuvant chemotherapy for liver lesions. At the time of hepatic resection, 180 patients (79.2%) had 1 or 2 tumors, and 46 (20.8%) had between 3 and 8 tumors. The median size of the largest tumor was 2.6 cm, and 39 patients (17.3%) had tumors larger than 5 cm. Unilobar distribution of tumors was present in 169 patients (74.8%). A total of

51 more than hemihepatectomies (22.6%), and 56 sectionectomies (24.8%), and 119 segmental and/or wedge resections (52.6%) were performed as the primary procedure. 13 patients (5.8%) of these required additional hepatic resections in addition to the primary resection. Median follow-up was 34.1 months and the 5-year survival rate was 62.2 months. On univariate and multivariate analysis, age ( $p=0.022$ ), differentiation of primary tumor ( $p=0.001$ ), DFI ( $p<0.001$ ) were associated with patient survival, and number of liver metastasis (3 or more lesions) ( $p=0.002$ ) was only associated with disease free survival.

**Conclusion:** In the era of effective chemotherapy, number of multiple liver tumors was only associated with poor disease free survival, but not with patient survival. Long-term survival can be achieved after hepatic resection of colorectal liver metastases in the patients with young age, well differentiation of primary tumor and DFI more than 12 months.

I-2

# Outcomes after Simultaneous and Consecutive Hepatic Resection in Hepatic Metastasis with Colorectal Cancers

Department of Surgery, Konyang University Hospital, Korea

**Seonguk Kwon, Inseok Choi, Juik Moon, Yumi Ra, Wonjun Choi, Deasung Yoon, Hyunsik Min**

**Background:** Outcomes after simultaneous and consecutive hepatic resection in Hepatic metastasis with colorectal cancers.

**Purpose:** In hepatic metastasis from colorectal cancer (CRC), aggressive surgical therapy may outgain the benefit. In this study, therefore, character of Hepatic metastases of colorectal cancer and outcome of Hepatic resection with potentially curative intention has been evaluated.

**Patients:** Between January 2000 to December 2010, 23 Patients, who underwent curative Hepatic resection for synchronous or metachronous liver metastasis from colorectal cancer, reviewed retrospectively. The following variables or factors have been analyzed: Surgery and stage of colorectal cancer, numbers and sizes of Hepatic metastasis, type of hepatic resection, remnant malignant cell of resection margin, recurrence,

site of recurrence, interval of recurrence, survival rate.

**Results:** Simultaneous Hepatic and colorectal resection has been undergone on 11 Patients, and 13 cases has been done the colorectal resection first and followed by separately hepatic resection due to the hepatic metastasis. Cancer located at ascending colon in 3 cases, S-colon in 5 cases, rectum in 16 cases. Rt. Hemicolectomy (3), AR (3), LAR (13), APR (4), and Hartman's operation (1) has been performed. In colorectal cancer stage I, II, III and IV were 0 (0%), 2 (8.3%), 11 (45.8%) and 11 (45.8%) respectively. Solitary hepatic metastasis was found in 12 patients, and multiple metastases were found in 12 patient. Mean number of hepatic metastasis was 1.9. 14 cases were less than 1 cm, 25 cases were larger than 1 cm but less than 3cm, 6 cases were larger than 3 cm, mean tumor size was 2.1cm. All possible parenchymal preserving hepatic resection have been executed. Wedge resection (9), Segmentectomy (10), Sectionectomy (10) and Hemihepatectomy (1) were performed. Laparoscopic liver resection has been done on 10 patients (41.6%), and except 4 cases, the complete resection have been achieved in all 20 cases. Recurred metastasis found in 12 (50%) patients (14 cases). Two patients recurred two sites, , and among those 14 cases, the following recurred lesions has been identified: liver (5), lung (7), Liver with lung (1), lung with bone (1). Redo-Hepatic resection was done in 4 cases and 1 case performed with wedge resection of lung in those 4 cases. In all cases, resection margins were identified as the tumor free. Average of the Interval of recurrence was 11.2 months and 5-year survival rate was 70% in 10 cases.

**Conclusion:** Recurrence rate (50%) of metastasis curative Hepatic and colorectal resection was similar to other studies. However, 5-year survival rate was shown improved in this study although there were some limitations in a few cases. Comparing to non-surgical cases, surgical resection of hepatic metastasis of colorectal cancer has been displayed better survival rate with the operable case.

### I-3

## Surgical Management and Outcome of Hepatic Colorectal Metastases

Division of Hepatobiliary and Pancreatic Surgery,  
Department of Surgery, University of Ulsan College of  
Medicine, Asan Medical Center, Korea

**Sang Yeup Lee, Jae Hoon Lee, Dae Keun  
Song, Dae Wook Hwang, Kwang-Min Park,  
Young-Joo Lee**

**Background:** Hepatic resection is widely accepted as the most effective treatment for patients with synchronous or metachronous hepatic colorectal metastases (HCRM). The aim of this study was to evaluate of hepatectomies for HCRM and early outcome.

**Methods:** A total 108 patients underwent surgical treatment of HCRM were analyzed retrospectively, between November 2009 and December 2010 at colorectal cancer center and Division of Hepatobiliary and Pancreatic Surgery, Asan Medical Center. Short-term outcome, overall and disease-free survival were analyzed.

**Result:** Of 108 patients undergoing hepatectomy for HCRM, 50 (46.2%) had synchronous HCRM and 45(41.6%) had metachronous HCRM (Group 1) and 13(12.2%) had repeated hepatectomy for recurrent HCRM. Among synchronous HCRM, 38 (76%) had a simultaneous hepatectomy and colorectal resection (Group 2) and 12 (24%) had a colorectal resection followed by hepatectomy (Group 3; one patient had unilobar HCRM and 11 patients had bilobar HCRM). Overall follow-up was 6 months (range 1-15 months) and there was no in-hospital mortality and four patients experienced morbidity at Group 2. In-hospital stay was no significantly difference between each Group (11 versus 13 versus 12 days). In all patients, surgical treatments were performed with curative intent, R0 resection was 35 (77%), 26 (74%), 6 (50%), respectively. Major hepatectomy (three or more segments) was 5 (11%), 4 (11%), 4 (33%), respectively. Recurrence was analysed in patient except R2 resection, there were 8 (18%), 9 (25%), 3 (50%), respectively. However, univariate analysis showed that there was no factor influencing to recurrence.

**Conclusion:** Multidisciplinary approach should be considered including chemotherapy, radiotherapy and surgery for synchronous or metachronous hepatic col-