Western Surgical Association
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– Virtual Meeting –
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P 6. PREDICTING EARLY RECURRENCE AFTER MAJOR HEPATECTOMY FOR METASTATIC COLORECTAL CANCER

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Background: Early recurrence following liver resection generally portends poor survival. We sought to identify factors associated with early disease recurrence after major hepatectomy for metastatic colorectal cancer (mCRC) in order to improve patient selection.

Methods: Sequential major (≥3 segments) liver resections performed for mCRC between 1995-2019 were selected from our prospectively-maintained database. Univariate, multivariable regression, and survival analyses were used to identify predictors of early recurrence, defined as within 6 months of major hepatectomy.

Results: Of the 259 patients included in the analysis, the median age was 61.3 years (IQR 53.2, 68.5). The median number of liver tumors was 3.0 (IQR 2.0, 4.0), and the median size of the largest lesion was 4.5 cm (IQR 3.0, 6.5). A majority (59%) of liver metastases were synchronous (liver diagnosis within 3 months), and the median colorectal-to-hepatic disease-free interval (DFI) was 22.7 months for non-synchronous tumors. 78.0% of patients received pre-hepatectomy chemotherapy. The operative procedures performed were right hepatectomy (56.4%), left hepatectomy (19.3%), and extended hepatectomy (24.3%). Early recurrence (ER) occurred in 26 (10.6%) patients. Resection margin positivity was similar in the ER group compared with the non-ER group (11.5% vs. 11.4%). A comparable number of patients received pre-hepatectomy chemotherapy among the ER and non-ER patients, 73.1% and 79.6%, respectively (p=0.450). Extrahepatic disease was present prior to liver resection in 23.1% of patients with an ER and 7.2% of those without (p=0.019). While the median Fong Score in the ER cohort (3.0, IQR 2.0, 4.0) was greater than in the non-ER group (2.0, IQR 1.0, 3.0; p=0.005), the individual components of the score were not significant predictors of recurrence within the 6-month interval. Among the ER patients, 15.8% (vs. 9.4%) had a preoperative CEA >200 ng/mL, 50% (vs. 31.3%) had a lesion greater than 5 cm in diameter, 72% (vs. 57.3%) had more than 1 liver lesion, 57.7% (vs. 44.8%) had a lymph node-positive colorectal primary tumor, and 76.9% (vs. 63.9%) had a colorectal-to-hepatic DFI less than 12 months (p>0.05). After multivariable regression, the factors predictive of an early recurrence were extrahepatic disease (HR 4.5; p=0.009), number of liver lesions (HR 1.2; p=0.010), and need for extended hepatectomy (HR 3.0; p=0.016). Greater than three liver lesions was associated with a hazard ratio for ER of 5.0 (95%CI 2.1, 11.8). Notably, 70.8% of early recurrences occurred within the liver remnant, while

20.8% were pulmonary metastases. The median overall survival was 11.7 months (95%CI 7.1, 16.2) for the early recurrence cohort vs. 45.6 months (95%CI 39.1, 52.1) for those who did not recur within 6 months of hepatectomy ($p < 0.001$).

Conclusion: Early recurrence after hepatic resection can be predicted based on preoperative factors and carries a poor prognosis. Strategies to treat systemic disease might hold promise for reducing recurrence following hepatectomy for mCRC.