

Impact and prediction of chemotherapy-associated liver injury

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Neoadjuvant chemotherapy has been proven to improve the survival as well as increase the curative resection rate for colorectal cancer with liver metastasis during last few decades. However, chemotherapy regimens including oxaliplatin and irinotecan was known to be related with liver injury such as sinusoidal obstruction syndrome and steatohepatitis, which might be related with an increased risk for post-hepatectomy morbidity and mortality.

In terms of liver resection for metastatic liver disease, there were various surgical strategies from limited liver resection to major liver resection and even two-staged hepatectomy. Obviously, liver surgeons should select the proper surgical strategy to maximize the oncologic outcome as well as the perioperative surgical outcomes under the careful consideration of chemotherapy-associated liver injury (CALI). CALI should be estimated with various risk factors such as 1) laboratory findings such as alkaline phosphatase level, platelet count, and aminotransferase level; 2)

indocyanine green test; 3) magnetic resonance elastography ; 4) preoperative liver biopsy; 5) transient elastography ; 6) radiologic image based volumetry of liver or spleen, et al. Timing of operation after chemotherapy also should be considered. In general, four to six weeks after completion of chemotherapy is considered; however, CALI may persist for a long time after chemotherapy. Sinusoidal dilatation and nodular regenerative hyperplasia may regress 9 months after end of chemotherapy, whereas steatosis persist even after this long time.

In conclusion, liver surgeon should determine the proper surgical strategy for each individual patient considering various risk factor for CALI to achieve maximal oncologic as well as surgical outcomes.

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