Radiofrequency Thermal Ablation Useful for Colorectal Liver Metastases

BY DOUG BRUNK
San Diego Bureau

Laparoscopic radiofrequency thermal ablation appears to be an effective adjuvant to chemotherapy for treating colorectal liver metastases. The survival benefit conferred by the technique is associated with three factors—serum carcinoembryonic antigen less than 200 ng/mL, dominant lesion less than 3.0 cm in diameter, and having one to three tumors vs. more than three tumors—results from a prospective study have shown.

Although earlier studies suggested that radiofrequency thermal ablation (RFA) favorably affected survival in this population of patients, “there are little data on predictors of survival,” Eren Berber, M.D., and his associates wrote (J. Clin. Oncol. 2005;23:1358-64). “The aim of this study was to determine factors that might predict survival at the time of RFA in patients with colorectal liver metastases.”

Dr. Berber and his associates studied 135 patients with primary or metastatic liver tumors who underwent laparoscopic RFA in the department of general surgery at the Cleveland Clinic Foundation. The patients were not candidates for resection, and 80% had intrahepatic tumor progression despite chemotherapy. Their mean age was 62, and most (85%) were men. The mean number of liver tumors was 3.2; the largest tumors had a mean diameter of 4.1 cm.

Investigators performed triphasic CT scans of the liver within 1 week before surgery. After undergoing laparoscopic RFA, most patients were kept in the hospital overnight for observation and sent home the next morning. CT scans and lab tests were repeated at 1 week and every 3 months postoperatively.

Median survival for all patients was 28.9 months after RFA and 44.9 months after the diagnosis of liver metastasis. Patients with a serum carcinoembryonic antigen (CEA) of less than 200 ng/mL at the time of RFA lived a median of 34 months, while those whose CEA exceeded 200 ng/mL lived a median of 16 months. The size and number of tumors also affected survival.

Those with a dominant lesion less than 3 cm in diameter had a median survival of 38 months, while those whose dominant lesions were 3-5 cm had a median survival of 34 months. Patients whose dominant lesions were larger than 5 cm had a median survival of 21 months.

“Survival approached significance for patients with one to three tumors versus more than three tumors (29 vs. 22 months),” the investigators wrote. “There was no survival advantage based on sex, age, colon versus rectal primary, nodal status at time of diagnosis, metachronous versus synchronous disease, bilobar versus unilobar disease, pretreatment chemotherapy, or documented extrahepatic disease at the time of treatment,” they said.

The only significant predictor of mortality by the Cox proportional hazards model was largest liver tumor size greater than 5 cm. Patients whose largest tumor was this size were 2.3 times more likely to die than those whose largest tumor was less than 3 cm.

“The results of this prospective study are encouraging and suggest a survival advantage when compared with chemotherapy alone,” wrote the investigators, who noted that historical survival with chemotherapy alone is 11-14 months. “Although our sample size might be insufficient for making decisive conclusions on the nonsignificance of the other risk factors, we believe that RFA is a useful adjunct to chemotherapy in this group of patients.”

Gene Profiling Might Predict Tx Response in Rectal Cancer

BY DIANA MAHONEY
New England Bureau

Hollywood, Fla.—New guidelines have broadened the options for adjuvant chemotherapy in colon cancer patients who are at high risk of recurrence to include the alkylating agent oxaliplatin and the antimetabolite drug capecitabine.

In the adjuvant setting, patients with stage III colon cancer (tumor-node-metastasis stage III) or stage II, with lymph node involvement (T1-3, N1, M0) should be offered oxaliplatin with 5-fluorouracil (5-FU) and leucovorin (the FOLFOX regimen) or capecitabine (Xeloda); or 5-FU and leucovorin without oxaliplatin, Paul Engstrom, M.D., said when presenting the updated guidelines at the annual conference of the National Comprehensive Cancer Network (NCCN).

The updates reflect large-scale clinical trial findings, said Dr. Engstrom, chair of the NCCN colon cancer guideline panel. The oxaliplatin-containing regimen is based on findings from the Multicenter International Study of Oxaliplatin/5-Fluorouracil/L50480 (FOLFOX) study in patients with colorectal liver metastases.” The survival benefit conferred by the technique is associated with three factors—serum carcinoembryonic antigen less than 200 ng/mL, dominant lesion less than 3.0 cm in diameter, and having one to three tumors vs. more than three tumors—results from a prospective study have shown.

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The patients were enrolled in the phase III German Rectal Cancer Trial and were randomized to receive a preoperative combined-modality therapy that included fluorouracil and radiation (J. Clin. Oncol. 2005;23:1826-38). After using class-comparison analysis, the investigators identified 54 genes that had significantly different expression levels between responsive and nonresponsive tumors based on T-level downsizing.

Next, they used leave-one-out cross-validation to estimate the response prediction gene expression profiling and noted that the sensitivity and specificity of the test were 78% and 86%, respectively, while the positive and negative predictive values were 78% and 86%, respectively. “Our inability to achieve higher accuracy could be due to several reasons, including tumor heterogeneity or the possibility that contamination of these particular biopsies with either normal rectal epithelium or adenomatous or stromal tissue could have partially obscured the signal,” Dr. Ghadimi said. “Future gene expression profiles more specific to rectal tumor cells.”

They emphasized that largerr, multicenter studies will be needed to confirm the findings.