

Study findings question benefit of additional imaging before cancer surgery

May 13 2014

Among patients with a certain type of colorectal cancer with limited spread to the liver, imaging using positron emission tomography and computed tomography (CT) before surgery did not significantly change the surgical treatment of the cancer, compared with CT alone, according to a study in the May 14 issue of *JAMA*.

Colorectal cancer is a leading cause of cancer death. Approximately 50 percent of patients present with or subsequently develop cancer that has spread (metastases) to the liver. Some patients with liver metastases are candidates for surgery to have the cancer removed. However, unidentified occult (hidden) metastases at the time of surgery can render the operation noncurative. Thus, long-term survival following surgical resection (removal) for [colorectal cancer liver metastases](#) is only about 50 percent. Positron emission tomography combined with computed tomography (PET-CT) could help avoid noncurative surgery by identifying patients with occult metastases, according to background information in the article.

Carol-Anne Moulton, M.B., B.S., of the University Health Network, Toronto, Canada, and colleagues randomly assigned patients with colorectal cancer treated by surgery with resectable (surgically removable) metastases based on CT scans to PET-CT ($n = 270$) or CT only ($n = 134$) to determine the effect on the surgical management of these patients. The study, conducted between 2005 and 2013, involved 21 surgeons at 9 hospitals in Ontario.

Of the 263 patients who received PET-CT scans, 111 provided new information: 62 were classified as negative and 49 had abnormal or suspicious lesions. Change in management (canceled, more extensive liver surgery, or surgery performed on additional organs) as a result of the PET-CT findings occurred in 8.7 percent of cases; 2.7 percent avoided noncurative liver surgery. Overall, liver resection was performed on 91 percent of patients in the PET-CT group and 92 percent of the [control group](#).

The median (midpoint) follow-up was three years. The researchers found no significant difference in survival or disease-free survival between patients in the PET-CT group vs the control group.

"Many countries struggle to maintain quality health care within existing budgets. This is difficult because of increasing [health care costs](#) as a result of an aging population and the expense of new therapies and technologies, including diagnostic and functional imaging," the authors write.

"Among [patients](#) with potentially resectable hepatic metastases of colorectal adenocarcinoma, the use of PET-CT compared with CT alone did not result in frequent change in surgical management. These findings raise questions about the value of PET-CT scans in this setting."

More information: [DOI: 10.1001/jama.2014.3740](https://doi.org/10.1001/jama.2014.3740)

Provided by The JAMA Network Journals

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