

NCI Status Has Major Impact on Colorectal Survival Specialists Split Over Findings

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Seniors who undergo colorectal surgery at National Cancer Institute (NCI)-designated cancer centers have markedly better odds of survival than patients treated at similarly sized nondesignated hospitals, according to a study presented in New York City at the 2008 annual meeting of the American Surgical Association.

"Our results indicate that undergoing surgical treatment for colon and rectal cancer at an NCI-designated cancer institute is associated with both lower postoperative mortality and improved long-term survival," said Emily Carter Paulson, MD, a study author and general surgery resident at the Hospital of the University of Pennsylvania in Philadelphia.

Patients undergoing colon and/or rectal resection at an NCI center were less than half as likely to die after surgery than patients undergoing resection at non-NCI centers, after accounting for patient characteristics and hospital volume, the report showed.

This is the first report to show that treatment at an NCI-designated cancer center confers a significant survival benefit.

The NCI recognizes 22 cancer centers and 39 comprehensive cancer centers as designated centers, a designation based on the centers' rigorous research activities. Although the label is unrelated to clinical performance, NCI institutions are usually staffed by specialists from all fields of cancer treatment and tend to use the newest multimodality technologies available. But colorectal cancer specialists are split over the findings.

"I think this is a self-serving, nonfactual study. It doesn't prove anything as far as I'm concerned," said Herand Abcarian, MD, the Turi Josefsen Professor and chairman of surgery at the University of Illinois College of Medicine in Chicago.

Dr. Abcarian argued that the investigators excluded too many patients from the analysis, rendering their conclusions meaningless.

"The fact of the matter is there is superb colorectal surgery being done at centers that are not NCI accredited. When it comes to surgery, the main critical factor is the surgeon's skill, not the volume of the center or whether it's a cancer center," he said.

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However, other surgeons not affiliated with the study praised the report, calling it “thoroughly analyzed” with limitations that are “well defined and acknowledged.”

“This is an important paper that offers some real insights into that very controversial question about quality in surgery,” said Bruce Wolff, MD, a professor of surgery at Mayo Clinic in Rochester, Minn.

“The authors have done us a great service by bringing further information that quality is complex and multifactorial, and that quality markers are not likely to be simple, isolated measurements.”

The finding is based on an analysis of Survival, Epidemiology and End Results (SEER)-Medicare files for patients diagnosed with colon or rectal cancer between 1996 and 2002. Excluded from the study were all patients who were enrolled in a health maintenance organization immediately before or after diagnosis, patients younger than 66 and older than 99 and patients who underwent only local excision of their rectal tumor.

The investigators identified 33,969 patients who underwent colectomy for colon cancer and 8,591 who had a radical resection for rectal cancer. Of these, 934 (3%) of the patients with colon cancer and 365 (4.3%) of the patients with rectal cancer had their surgeries at an NCI cancer center.

Just over 3% of patients who underwent colon resection at an NCI center died after surgery, which was less than half of the 6.7% who died at non-NCI centers. When investigators limited analysis to high-volume hospitals that performed at least 16 colectomies a year, the difference between NCI and non-NCI hospitals was significant, although less pronounced.

Similar gaps in mortality were evident among patients who underwent resection for rectal cancer, with a 1.9% death rate among patients treated at NCI centers and 5% for those at non-NCI centers.

Patients at NCI centers were more likely to have stage IV disease and to be younger, black and from lower socioeconomic regions, the analysis showed.

The report’s senior author, Najjia Mahmoud, MD, an assistant professor of surgery at the University of Pennsylvania in Philadelphia, said the investigators could not discern exactly why patients treated at NCI centers have better survival.

She suggested that the NCI designation likely serves as a proxy for hospital and staff characteristics. “Most likely, it is an intricate combination of multidisciplinary team meetings; surgeon, oncologist and pathologist specialization and volume; and

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familiarity with and adherence to treatment guidelines that mediate the improved patient outcomes seen at NCI centers,” she said.

The finding lends credence to the concept of centers of excellence for some types of cancer surgery, said Dr. Wolff. NCI-designated centers are essentially centers of excellence, with the full gamut of experienced surgeons, high volume, radiation and medical oncologists with a collaborative approach, critical care capabilities, skilled focused nursing and support services, and diagnostic and interventional radiology, he noted.

Only one other study has examined mortality rates following surgery for cancer at NCI-designated cancer institutes compared to other centers. That study showed that, for many cancer procedures, patients undergoing surgery at NCI-designated centers had lower surgical mortality rates than those treated at comparably high-volume hospitals, but had similar long-term survival rates (*Cancer* 2005;103:435-441).

Dr. Carter Paulson said that her study included a broader group of patients who were treated more recently and looked at more patient characteristics than the earlier report.

—The American Surgical Association was founded in 1880 and is the country’s oldest surgical organization.