

Right-sided colon cancer patients have poorer survival than those with left-sided disease

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Killer T cells surround a cancer cell. Credit: NIH

ORLANDO (July 23, 2018): Patients with colorectal cancer tumors on the right side may have poorer five-year survival rates than those whose tumors are located on the left side. However, a new large-scale

retrospective study is the first to demonstrate a potential improvement of these outcomes. Study results show that nearly doubling the benchmark number of lymph nodes removed during operations for right-sided colon cancers improves the survival rate for these patients, according to researchers who presented these findings at the 2018 American College of Surgeons (ACS) Quality and Safety Conference.

Several studies in recent years have shown that patients with colon cancers on the right side have worse short- and long-term [survival rates](#) than those with left-sided tumors regardless of the stage of the disease at diagnosis or the nature of treatment. Additional studies have begun to re-examine the surgical management of patients with right-sided colon cancer.

For years the consensus among professional surgical and cancer treatment societies has held that, at a minimum, 12 lymph nodes should be removed and analyzed to determine the prognosis and treatment of patients with colon cancer on either side. The ACS Commission on Cancer (CoC) has identified this standard as a quality performance indicator for surgical treatment. As presented at the ACS conference, these study results are the first to link improved survival with a harvest of more than 20 lymph nodes in the treatment of right-sided cancer.

Investigators from Florida Hospital, Orlando, and McGill University Health Centre, Montreal, Quebec, collected information from the National Cancer Database (NCDB) about patients who underwent surgical removal of the colon for non-metastatic colon adenocarcinoma between 2004 and 2014. After adjusting for patient and disease characteristics as well as the type of systemic treatment, researchers grouped data by tumor location. Of a total of approximately 505,000 patients whose records were entered into the NCDB, 273,200 had right-sided tumors.

Overall five-year survival for this group of patients with right-sided tumors was 66 percent for stage II disease and 56 percent for stage III cancer. In comparison, survival rates were 70 percent and 60 percent for patients with left-sided stage II and III cancers. Among patients with right-sided cancer, the survival rate improved by approximately 20 percent when 22 or more lymph nodes were harvested during patients' operations.

Findings from the study suggest that colorectal surgeons may want to take extra steps to improve lymph node harvest for patients with right-sided disease. Colorectal surgeons from Florida Hospital and McGill University Health Centre are using near-infrared fluorescent scanning to map the lymph node drainage basins around tumors to potentially better identify [lymph node metastases](#).

"We're injecting tumors with indocyanine green dye so we can find suspicious lymph nodes. During surgical resection, we're specifically targeting those extra nodes to get better staging," said study author Lawrence Lee, MD, Ph.D., a colorectal surgeon and Ph.D. in epidemiology at McGill University Health Centre.

The study also may prompt surgeons to begin reexamining the type of operations they perform on patients with right-sided colorectal tumors.

"Lymph node harvest is related to the extent of the surgical resection. If removal of more [lymph nodes](#) improves survival of patients with right-sided cancer, these patients may need a more extensive resection than is considered to be standard for them," Dr. Lee said.

Operations currently differ for left- and right-sided colon cancers. The standard procedure for patients with left-sided cancers involves high central vascular ligation (CVL) of major blood vessels up near the aorta. CVL is not usually done for patients with right-sided cancers because the

abdominal anatomy and vascular networks are complicated and operating around them increases operative time and the risk of complications.

Surgical teams in Asia and Europe have recently reported on small, single-center studies of laparoscopic or robotic extended right-sided resections with CVL that did not increase operative time or complication rate and improved short- and long-term outcomes.

"The kinds of vascular ligations that are required to get a greater nodal harvest on the right side mean the surgeon is dissecting around really big blood vessels. It's a larger resection overall on that side, and the more vasculature that's involved, the higher the risk for anastomotic breakdown and injury to these blood vessel. So surgeons may not want to do more resection on right-sided colon cancers," said Dr. Lee.

A multicenter, randomized prospective study is required to establish the value of an extended resection and CVL on the right side. As Dr. Lee acknowledged, "We don't know the answer to the risk/reward ratio, but our study shows there's enough of a difference in survival with greater [surgical resection](#) that we need a better understanding of the way we're operating on the right side."

Provided by American College of Surgeons

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