New study findings link traveling to an academic medical center for surgical removal of pancreatic or thyroid cancer with higher quality surgical care for both cancers, and longer survival for patients with pancreatic cancer compared with patients who receive treatment at a hospital closer to home. Despite the advantages, few patients with these cancers travel within the United States for their cancer operations, according to the authors of the study, which is published online as an "article in press" on the Journal of the American College of Surgeons website in advance of print publication.

"Little was known about whether traveling to receive surgical cancer care results in differences in perioperative outcomes and overall survival," said senior investigator Raymon H. Grogan, MD, FACS, assistant professor of surgery at the University of Chicago Medicine. "Yet, there is a well-established relationship between a surgeon's high volume of operations and patients' improved outcomes for pancreatic and thyroid cancer, and most high-volume surgeons in the United States practice in metropolitan settings and academic referral medical centers.

"We wanted to know: if you live in a rural area, does it benefit you to travel to a high-volume academic medical center for your cancer operation?"

To understand the effect of travel on the overall survival rate and quality of care, Dr. Grogan and co-investigators focused on two types of cancer with different chances for cure. One, papillary thyroid cancer, is the most frequent type of thyroid cancer and is usually slow growing and its treatments are associated with a low complication rate. The other, the most common form of cancer of the pancreas, pancreatic ductal adenocarcinoma, tends to be aggressive with a much worse survival rate. Using patient records entered into the National Cancer Database (NCDB), the authors analyzed data for 105,677 patients with papillary thyroid cancer and 22,983 patients with pancreatic ductal adenocarcinoma. This database is cosponsored by the American College of Surgeons and the American Cancer Society and includes information on approximately 75 percent of all newly diagnosed cancer cases in the United States.

In this proof-of-concept study, the investigators employed a new method of defining travel using data available in the NCDB and the U.S. Census Bureau. They determined the average area of a county in square miles, for metropolitan, urban, and rural areas (from largest to smallest population) in each of the nine national regions described by the Census Bureau. The researchers considered patients to have traveled for cancer care if the shortest distance from home to treatment center was greater than either the square root of the area of their county if they lived in metropolitan areas or metropolitan-adjacent counties or twice the square root of area of their county if they lived in a county that was not adjacent to a metropolitan area.

The minimum distance for patients who traveled ranged from 20 to 84 miles, the investigators found. Patients residing in the Pacific and Mountain Regions were excluded from analysis because of discordant travel lengths compared with other regions, according to the article.

Travel correlated with receiving care at an academic (university-affiliated) medical center, said Michael G. White, MD, the study's lead author and a general surgery resident physician at the University of Chicago Medicine.
Among patients with pancreatic cancer, those living in rural and urban areas who traveled to an academic medical center for their care had longer overall survival compared with patients who underwent cancer operations near their home communities, the researchers reported. Overall survival is a measure of the length of time from a person's cancer diagnosis to the time of his or her death, regardless of the cause of death. Patients with this aggressive pancreatic cancer lived two months longer on average if they traveled for care, Dr. Grogan reported.

Additionally, patients who traveled for care were more likely to have lymph node dissection, which is removal of selected lymph nodes for examination for cancer. This surgical approach is the standard of care for pancreatic cancer that can be removed surgically, Dr. White said. Patients who traveled also had better rates of clear margins—no microscopic evidence of cancer remaining in the tissues around the removed tumor.

Thyroid Cancer

As expected, the researchers found no survival differences by travel in patients with thyroid cancer, which Dr. Grogan said has an average five-year survival rate of 97 percent. Importantly, however, patients who traveled were more likely to receive care that followed cancer treatment guidelines from the American Thyroid Association and the National Comprehensive Cancer Network, an indicator of quality of care, he stated.

"Our data do not necessarily show that patients who don't travel for cancer care receive suboptimal care," Dr. Grogan stressed. "Rather, patients who travel more often receive the gold standard care that more often conforms with evidence-based recommendations."

Few Patients Travel for Care

Yet, only 9 percent of patients with thyroid cancer and approximately 25 percent of pancreatic cancer patients traveled for their surgical care, the data showed.

Dr. Grogan said, "Although we found that travel is associated with better outcomes, the vast majority of these cancer patients are not traveling for their care."

From the data, he said they cannot conclude why most patients opt to not travel for their cancer operations or what impact the local physicians' referral patterns have on patients' decision making. In the case of why more pancreatic cancer patients travel then thyroid cancer patients, Dr. White speculated, "Poorer survival rates for pancreatic cancer may drive the choice to travel to a medical center that performs a higher volume of these operations."

Noting that lengthy travel to a cancer treatment center may have disadvantages as well as the observed advantages, Dr. Grogan said their study gives patients with cancer more information to decide what is important to them. Whether patients travel for surgical cancer care or not, he recommended that they ask their surgeon two important questions: "How many of these operations do you perform each year? What is your complication rate when performing this operation?"


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