Quality of care for older Texas patients with colon cancer on the rise, still room for improvement

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Research from The University of Texas MD Anderson Cancer Center finds adherence to surgical treatment guidelines has improved significantly among older Texas patients with colon cancer since 2001, while adherence to chemotherapy guidelines has remained largely unchanged. The study, published today in *Cancer*, identifies factors influencing adherence rates, including socioeconomic status and access to skilled physicians.

The researchers also report significant survival benefits associated with adherence to treatment recommendations, highlighting the importance of informed discussions between patient and provider as well as the need to address barriers to care for certain populations.

"It's been shown that patients with colon cancer have better survival outcomes when receiving guideline-recommended treatment," said lead author Hui Zhao, Ph.D., assistant professor of Health Services Research. "Therefore it was important for us to characterize adherence-to-treatment guidelines to monitor the quality of care in Texas. Interestingly, we found surgical adherence has improved quite a lot since 2001, but for chemotherapy, the line is almost flat."

The National Comprehensive Cancer Network (NCCN) recommends patients with Stage II colon cancer receive a colectomy and removal of at least 12 lymph nodes. For those with Stage III disease, the NCCN

recommends chemotherapy, consisting of fluorouracil (5FU) with leucovorin or capecitabine, in addition to colectomy and lymph node removal.

For the current study, the researchers analyzed Texas Cancer Registry and Medicare data from patients with Stage II (2,161) or Stage III (3,868) colon cancer, diagnosed in Texas between 2001 and 2011. All patients included were over 65 years of age and had received a colectomy within six months of diagnosis. The researchers defined adherence as receiving treatment in alignment with the NCCN recommendations.

Overall, 64.4 percent of Stage II or III patients received recommended surgical treatment, and the rate of adherence increased substantially between 2001 and 2011, rising from 47.2 to 84.0 percent. In contrast, just 50.3 percent of Stage III patients 80 years or younger received recommended chemotherapy treatments, and adherence rates increased only slightly, from 48.9 to 53.1 percent.

When considering adherence specific to disease stage, 51 percent of Stage II patients and just 30 percent of Stage III patients received recommended treatments.

"I was surprised by these results, because there is a clear benefit to the patient from receiving guideline-concordant therapy," said Zhao. "Our study reinforces previous data showing that adherence is associated with improved survival, which is important for patients to be aware of."

Among patients with Stage II disease, surgical adherence was associated with an 87 percent survival rate at five years, compared with 77 percent in patients receiving surgery that did not meet recommendations.

For those with Stage III colon cancer, five-year survival was 73 percent

in patients receiving recommended treatments. In contrast, the survival rate was just 62 percent among those receiving only recommended surgery, and 55 percent for those who had non-adherent surgery.

Knowing it is important to address barriers to quality cancer care, the researchers also analyzed factors associated with non-adherence. Surgical adherence was significantly associated with factors including tumor size, location near large metropolitan cities and the specialization of the surgeon operating on the patient.

Adherence to chemotherapy recommendations appeared to be highly related to gender and comorbidities in addition to socioeconomic status, particularly income level. Those who had Medicare covered by a state buy-in program, available for individuals with income at or below 135 percent of the federal poverty level, were 18 percent less likely to receive recommended chemotherapy treatments.

"Our study reinforces the need for providers to have open discussions about risks and benefits so that our patients can make informed decisions about their care," said senior author Sharon Giordano, M.D., chair of Health Services Research and professor of Breast Medical Oncology. "To ensure quality care, we must also work to improve access to care wherever possible, reducing or eliminating barriers that prevent patients from receiving appropriate treatments."

As a result of the database used, the study was limited by its inclusion of only older patients from Texas, so the findings may not generalize to younger patients or those living outside of Texas, explained the researchers. Further, information on the patients' physical or mental status, which may have affected their ability to receive treatment, was not available. Future work will address these limitations in larger population samples.