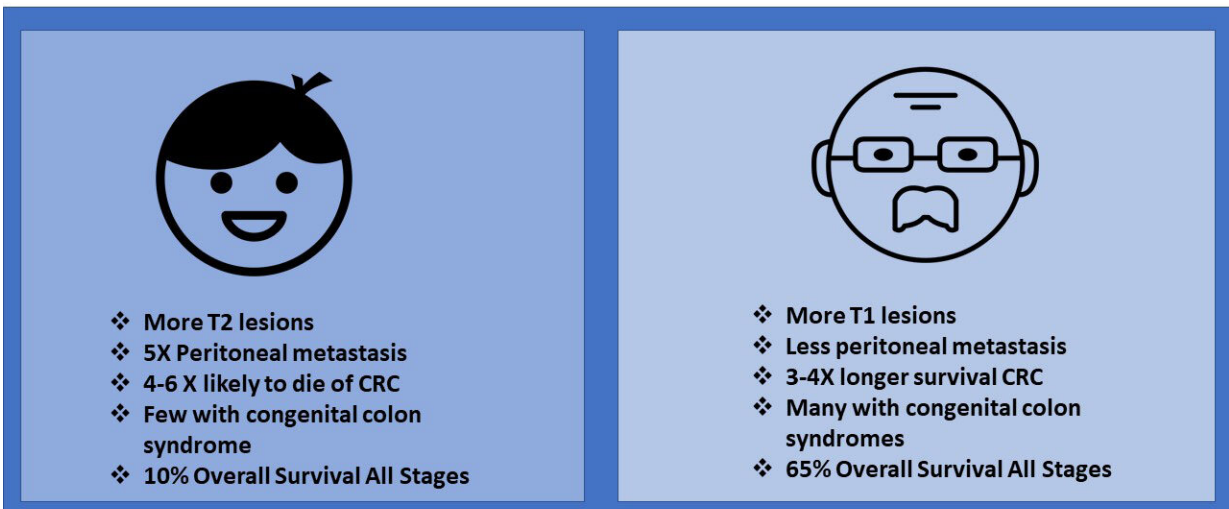


Study examines why colon cancer is more deadly in pediatric and young adult patients

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Colon Cancer in Patients Under 25 Years Old: A Different Disease?



Hayes-Jordan et al. J Am Coll Surg, April 2020



Colon Cancer in Patients Under 25 Years Old: A Different Disease? Credit: American College of Surgeons

Colon cancer is more likely to be lethal in children and young adults than middle-aged adults. In a single-institution study, researchers at The University of Texas MD Anderson Cancer Center, Houston, Tex., found that differences in mortality rates persist regardless of whether pediatric, adolescent, and young adult patients (aged 24 and younger) were born

with a predisposition for colon abnormalities or disease and for the first time conclude that young people are more likely to have metastases outside the colon, into the abdominal cavity, when they are diagnosed. Their findings put families, clinicians, and surgeons on alert to be sure abdominal complaints in young people are thoroughly and carefully evaluated when first reported, and aggressively treated if cancer is discovered. Study findings appears in an "article in press" on the *Journal of the American College of Surgeons* website in advance of print.

Colon [cancer](#) is rare in individuals under age 25. Prevalence of the disease in patients under age 20 is 0.2 percent. While the Surveillance, Epidemiology and End Results Program (SEER) estimates more than 145,000 new cases of [colon cancer](#) for 2019, only about 290 cases are expected in [children](#) and young adult people.

The diagnosis of colon cancer in children, and [young adults](#) is often delayed. Most (70 percent) children and young adult patients in a 2019 survey by Colorectal Cancer Alliance were diagnosed with stage 3 or stage 4 disease. In contrast, older patients are more likely to be diagnosed with stage 1 or 2 disease.²

"Children with colon cancer can fall through the cracks. They may be seen by an oncologist who treats adults but who doesn't know how to treat children. Or they may be seen by a pediatrician who knows all about treating children but nothing about colon cancer," said Andrea Hayes-Jordan, MD, FACS, lead author of the paper, and Surgeon-in-Chief of the North Carolina Children's Hospital, University of North Carolina, Chapel Hill. She was a professor and section chief of pediatric surgery at MD Anderson at the time the study was conducted.

The result is no clear path for treating children with colon cancer, other than providing the same treatment as adults. Furthermore, study findings clearly show that these types of interventions are not effective. "Stage

for stage, children fare 5 to 6 times worse with treatment. So a child with Stage 4 disease has a 6 times higher chance of dying than an adult with the same stage of cancer," Dr. Hayes-Jordan said.

For the study, researchers compared retrospective outcomes for 94 [pediatric patients](#) treated at MD Anderson between 1991 and 2017 with a prospectively maintained database of outcomes for adult patients who were treated for colon cancer. Three-year overall and relapse-free survival differed markedly: 90 percent and 78 percent for adults versus 42 percent and 32 percent for children. Except for patients with stage 1 disease, a stage-for-stage comparison showed much lower survival rates for children. Five-year overall survival at stage 2 was 90 percent for adults versus 64 percent for children, at stage 3, 85 percent for adults versus 58 percent for children, and at stage 4, 55 percent for adults and 16 percent for children.

Relapse-free survival by stage were: 85 percent for adults versus 55 percent for children with stage 2 disease, 73 percent for adults and 31 percent for children with stage 3 cancer, and 27 percent for adults versus 5 percent for children with stage 4.

Although some congenital abnormalities have been associated with colon cancer in [young people](#), 71 percent of the patients in this study had no predisposing syndrome. This study also is the first to show that peritoneal (inside the abdomen but outside of the colon) metastasis is significantly higher ($p=0.00001$) in pediatric patients, the authors report.

"Although some may think the study raises more questions than it answers, it at least illuminates the problem so we can start working on it," Dr. Hayes-Jordan said.

In fact, Dr. Hayes-Jordan will soon be co-leading a clinical trial that will gather tissue from adults and children with peritoneal disease and

conduct genetic analyses to try to identify differences in tumors in children and investigate treatment alternatives that will benefit these patients.

Until more is known about pediatric colon cancer, Dr., Hayes-Jordan advises parents and clinicians to be vigilant. "Early symptoms, such as bloating, abdominal fullness, general abdominal discomfort need to be taken seriously. They need to be evaluated with computed tomography scans or other imaging technologies to identify the specific problem, and not dismissed as the stomach flu or a simple tummy ache after eating bad food," she said.

Dr. Hayes-Jordan also recommends a [surgical procedure](#) up front and surgical excision that removes as much of the tumor as possible.

"Children are not small adults. They should be treated with independent thought and careful evaluation," she concluded.

More information: Colon Cancer in Patients Under 25 Years Old: A Different Disease? *Journal of the American College of Surgeons*, 2020.

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