Surgery for rectal cancer: Eight things to know

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"Rectal surgery recurrence rates have fallen from roughly 20% of cases before 1990 to less than 5% today," says Vikram Reddy, MD, PhD, MBA, chief of colon and rectal surgery for Yale Medicine. Credit: Robert A. Lisak

Rectal cancer is the cancer nobody wants to talk about, but the need for a

conversation is becoming urgent. Combined with colon cancer, it's the third most common cancer in the United States, and diagnoses have been rising each year in people younger than 50. It is predicted that there will be more than 44,800 new cases of rectal cancer in the U.S. this year.

More importantly, though, there is reassuring news: The outlook is getting better for rectal cancer—if it's diagnosed before it spreads, the five-year survival rate is 89%.

"Rectal cancer is a very treatable disease," says Vikram Reddy, MD, Ph.D., MBA, chief of colon and rectal surgery at Smilow Cancer Hospital. He works with colon and rectal surgeon Anne Mongiu, MD, Ph.D., among others, to treat a high volume of cases, many of them complicated. But despite their complexity, the outcomes are still quite good. "I have more and more patients that I have followed for five years to whom I say: "Things are good. You don't have to worry, and you can stop seeing us,'" he adds.

Of course, quality of life after rectal surgery is important, too. The surgeons say there are fewer issues after a procedure when patients get an early diagnosis—which is why it's important to talk to your doctor as quickly as possible about changes in bowel habits. Of particular concern are narrow stools or blood in stools, a feeling that the bowel isn't emptying completely, and other colorectal cancer symptoms.

But many feel uncomfortable at the idea of talking to doctors about these symptoms, and fear of COVID-19 infection means fewer people are having their screening colonoscopies or seeing doctors about their concerns, Dr. Reddy explains. "We're seeing a lot more cases of advanced rectal cancer during the pandemic," he says. "If there's bleeding, they may assume it's hemorrhoids, and because they're not willing to see their doctors during the pandemic, many people who should be having screening exams aren't getting them."

This is a problem because when rectal cancer has time to advance, there is a greater chance that it will spread in the body. With advanced rectal cancer, there is a higher likelihood patients will need chemotherapy and radiation in addition to surgery, and often need a stoma—a pouch to collect waste through a hole in the abdominal wall. Sometimes, the stoma can be permanent.

We sat down with Drs. Reddy and Mongiu to discuss the eight things you need to know about rectal cancer.

1. Colorectal cancer refers to cancer that occurs anywhere in the colon and the rectum.

When you think about colorectal cancer, it may be helpful to understand the entire area. Within the large intestine, there is the colon, which is about 5 feet long; the rectum, which is about 6 inches; and the anus. Stools are liquidy as they form in the colon, then solidify in the rectum, where they are stored temporarily. The 2-inch-long anal canal is made up of two anal sphincters and the pelvic floor muscles, and it controls the passing of stool.

Polyps can form in the colon and rectum. During a colonoscopy, which is considered the "gold-standard" colorectal cancer screening procedure, gastroenterologists will remove any polyps they find. A pathologist will determine whether the polyp is cancerous.

In some cases, by doing a digital rectal exam, even a primary care provider can quickly find a problem. But Dr. Mongiu says fewer doctors perform this exam—unfortunately, she adds—because many of her patients could have been diagnosed earlier. "It should be done on every patient as part of routine physicals—just as a screening—because you could catch something that's so early it's not even bothering them yet."

2. You don't just need the right colorectal surgeon—you need a team.

If you need rectal surgery, Dr. Reddy recommends finding a colorectal surgeon who does a high volume of the rectal surgery you need, because they are most likely to have the best outcomes, fewer issues with sexual and bowel function after surgery, and less chance of having a colostomy. "Sometimes it's best to just ask a surgeon, "How many of these do you do in a month—or in a year?'" he says. "You should find someone who does more than 50 a year."

Dr. Mongiu agrees. "Much like tying your shoe or going for a run, these complex surgeries are muscle-memory procedures. So, it's better to be with someone who does a high volume of them," she says.

It's also important to select a colorectal surgeon who has done a fellowship in colon and rectal surgery, which differentiates them from general surgeons.

But it's not just about the surgeon—it's about getting care at a center with a multidisciplinary team, Dr. Mongiu adds. "It's a lot better when you go to a place, such as an academic medical center, where care is interconnected," she says. "Every time one of my patients with rectal cancer sees the oncologist, I get that note. I know how their treatment's going, and that helps me prepare."

3. Colorectal surgeons use MRI to enhance surgery.

If you get a rectal cancer diagnosis, it may help to know that recent years have brought significant improvements in care. For example, colorectal surgeons now use magnetic resonance imaging (MRI) to gather important information. MRI enables them to accurately assess the size of

a tumor and pinpoint its location within the rectum, as well as how close it is to other anatomical structures. This, in turn, helps in surgical planning and can reduce the likelihood of recurrence and surgical complications.

An MRI can help colorectal surgeons see how much cancer has invaded the rectal wall, and even the lymph nodes and the fat around the rectum, which are also removed in surgery, says Dr. Mongiu. All of this information guides what is called "total neoadjuvant therapy"—shrinking the tumor with chemotherapy and radiation before surgery, which can minimize the surgery that will be required, she adds.

"In a small percentage of patients, the cancers completely disappear when they get chemotherapy and radiation," Dr. Reddy says.

4. Robotic surgery means more precise surgical work, less time in the hospital.

"Robotic surgery has been a game-changer for us," says Dr. Reddy, and while there are still some open and laparoscopic operations, almost all rectal surgeries performed at Yale are now robotic ones, he adds. For the patient, surgery can mean three or four small incisions in the belly, and the robot makes that less painful, he explains. "Even in patients who are heavier or who have more co-morbidities, it makes the surgery a little easier."

In robotic surgery, rather than operating directly on the patient, the surgeon sits at a console near the patient and manipulates robotic surgical tools while watching on a monitor. Robotic surgery allows doctors to be more precise. It also provides better visualization of the rectum, which is a difficult area to operate on because it is in a narrow portion of the body, with thin walls and nearby nerves that are important for urination

and sexual function, Dr. Reddy says. The rectum is located close to the prostate in men, the vagina in women, and the bladder. Also, there is the additional challenge of trying to protect the anal sphincters.

A colon and rectal surgeon performing robotic surgery has a more three-dimensional sense and a greater stabilization of his or her instruments than in surgery without a robot, Dr. Reddy explains. "The visualization is unbelievable. We can zoom in and look very closely at the nerves, making it easier to preserve them," he says.

For patients, robotic surgery has meant less pain from surgery, and it often cuts the length of hospital stay from what would otherwise have been five days to three, he adds.

Studies also have shown that there is a lower incidence of nerve injury with robotic surgery, Dr. Reddy says. The combination of pre-surgical tumor treatment and robotic surgery has also lowered the risk of a permanent stoma for many patients, Dr. Mongiu adds.

Yet another benefit is that robotic surgeries don't create the same scar tissue within the abdomen that can occur with traditional open surgery for rectal cancers—scar tissue that would put young women at risk for infertility, Dr. Reddy adds.

5. Two types of rectal surgery require no incisions at all.

While most minimally invasive rectal surgeries are performed through incisions in the abdomen, two of the newest procedures don't involve any incisions at all. Several years ago, Dr. Reddy started performing a difficult procedure called transanal endoscopic microsurgery (TEMS), which is a minimally invasive (but not robotic) surgery that uses special equipment, including a freestanding laparoscope and anoscope. With

TEMS, the surgeon inserts specialized instruments through the anus to remove early-stage cancerous lesions.

A newer procedure, used only on small early-stage cancers, is transanal minimally invasive surgery (TAMIS), which allows many patients to go home the same day. It can be done robotically, with instruments inserted through a port in the anus.

"Sometimes, these are polyps that a gastroenterologist has excised in a colonoscopy and an incidental cancer was found," says Dr. Mongiu. "So, we go back in and take more samples of that section of the wall in the rectum and send that to pathology. If there's no residual cancer—or if we can clear the rest of the residual tumor—that's all that needs to be done," she says.

6. Success of rectal surgeries depends on multiple factors.

It's difficult to gauge the success of rectal surgeries. One consideration is "local recurrence rate"—if a patient has no local recurrence, that means the surgery was precise enough that no cancer cells were left behind. "Rectal surgery recurrence rates have fallen from roughly 20% of cases before 1990 to less than 5% today," says Dr. Reddy. But this can vary widely based on a number of factors, he says, adding that each patient is different, every rectal cancer has its own size and stage, and the colorectal surgeon's experience makes a difference.

Patients who are most likely to have a recurrence are those who have perforated or obstructing cancers, or they have a rare phenotype called mucinous rectal cancers, Dr. Reddy says. "But for most patients, our recurrence rate is very low."

7. Fewer patients have permanent stomas.

Permanent stomas are less common than they used to be. According to United Ostomy Associations of America, Inc., there are currently 725,000 to 1 million people in the U.S. who have an ostomy (the surgery that allows bodily waste to pass through a stoma)—an estimate that includes rectal ostomies from cancer and other causes. Other patients may have a temporary one, while some patients will not have a stoma at all after rectal surgery.

"For us, the only absolute criteria right now that leads patients to have a permanent stoma is the tumor invading the anal sphincter," Dr. Reddy says. But if the sphincter must be removed, there isn't anything to replace it with, he adds.

Robotic surgery is helping even in some situations where preserving the anus was once impossible, says Dr. Mongiu. "The robot makes it easy to get to lower rectal tumors—even those at the very bottom of the rectum," she says.

After surgery, rectal cancer patients are taken to a hospital floor where there are nurses with specialized knowledge about their procedure. Additionally, there are certified ostomy nurses that visit inpatients to teach them how to care for a temporary or permanent stoma appropriately.

"We try to simplify ostomy care so that eventually it becomes part of their daily routine. This starts with teaching before surgery, and continues through their inpatient stay and subsequent outpatient follow-up care. Taking care of a stoma can be as simple as adding another thing to your to-do list," says Jennifer Giannettino, MSN, a Yale Medicine nurse practitioner who works in the ostomy program.

Ultimately, most people adapt quite well, she adds. "There is a learning curve, which can be challenging for some patients, making inpatient and outpatient coaching an important part of their care. Some were so symptomatic from their cancer that it's a welcome change, and there are other patients for whom it takes a little coaching."

A stoma shouldn't interfere with a person's regular activities, and a variety of products can help. "People with ostomies can fully participate in life's activities such as swimming, sports, and other hobbies," Giannettino says. "But there are some careers and activities that may be best supported with additional accessories."

For instance, people with ostomies can develop hernias. Those who go back to jobs that involve heavy lifting can get hernia belts to protect against this, she explains. People who ride motorcycles or go rock climbing—activities where they could risk falling on their stomach—can get titanium covers to protect their stoma. Yale providers have worked with schoolteachers, airline pilots, and others who were able to continue their careers and lifestyles with the appropriate support, she says.

Even if you don't have an ostomy after rectal surgery, bowel movements can change, says Dr. Reddy. He compares the rectum to the body's trash can. "If part of the rectum is removed, the trash can becomes smaller," he says. "What can end up happening is some patients go to the bathroom four or five times a day. And sometimes they have to go when they have to go." Certain foods may trigger this, too. These symptoms can improve, but it can take a year, he adds.

8. Care and education after rectal cancer surgery make a difference.

Rectal surgery can be different for each patient. A surgery in the lower

rectum will be more complex and can take six or seven hours; if it's in the upper rectum, it can take as little as two hours.

"The whole treatment can be overwhelming," says Maggie Guerrero, APRN, who cares for colorectal patients outside of the hospital. Patients might see multiple providers—in addition to several doctors, they can see a nutritionist, an enterostomal therapy nurse, and a social worker.

"Our goal is to provide individualized care," Guerrero says, and this can involve a lot of discussion, since many patients come in with preconceived ideas after talking to family and friends. "We take a breath and say, "This is your journey. It's good to get information, but bring it back to us so that you don't get overwhelmed." We can help our patients have a successful treatment."

Meanwhile, Dr. Mongiu is involved in the development—and related research—of a pre-surgery program to help people strengthen the muscles involved in bowel movements, so they are more functional after surgery. "There is a rather complicated muscular and neural dance that we do to squeeze and contract certain muscles," she says. "This program would allow patients to do pelvic floor or physical therapy from the privacy of their homes—and for a lot less up-front cost than going to see a physical therapist," she says.

In the end, no one should be so afraid that they are hesitant to seek care if they have symptoms, Giannettino says. Doctors will start scheduling routine colonoscopies to screen for colorectal cancer starting at age 45—or earlier if they suspect a problem. "If you get checked and you learn you have something, don't be afraid to proceed with the treatments you need," Giannettino says. "You're not alone, all things are manageable, and we have resources that can help."