Patient information regarding care and surgery associated with DIVERTICULITIS

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Diverticulitis

Diverticulosis is the presence of protrusions or outpouchings of the lining of the colon through the muscular layer. Diverticulosis occurs in 1-2% of people less than 30 years of age, 5% less than 40, 10-15% less than 50, and up to 60% of those greater than 60 years of age**.** The etiology of diverticulosis is not known but may be associated with increased pressure inside the colon and a weakened colon wall at the site where blood vessels penetrate. Diverticulitis occurs when inflammation is superimposed on diverticulosis and may occur in 10-25% of all patients with diverticulosis. The sigmoid colon is affected in 95% of patients with diverticulitis.

75-85% of patients with uncomplicated diverticulitis will respond to antibiotics and bowel rest. Of those who respond to antibiotics, 25-45% will have a second episode of diverticulitis within 2 years of the first attack. 20-33% of patients admitted to the hospital with diverticulitis will require an operation during that admission.

About the Colon and Rectum

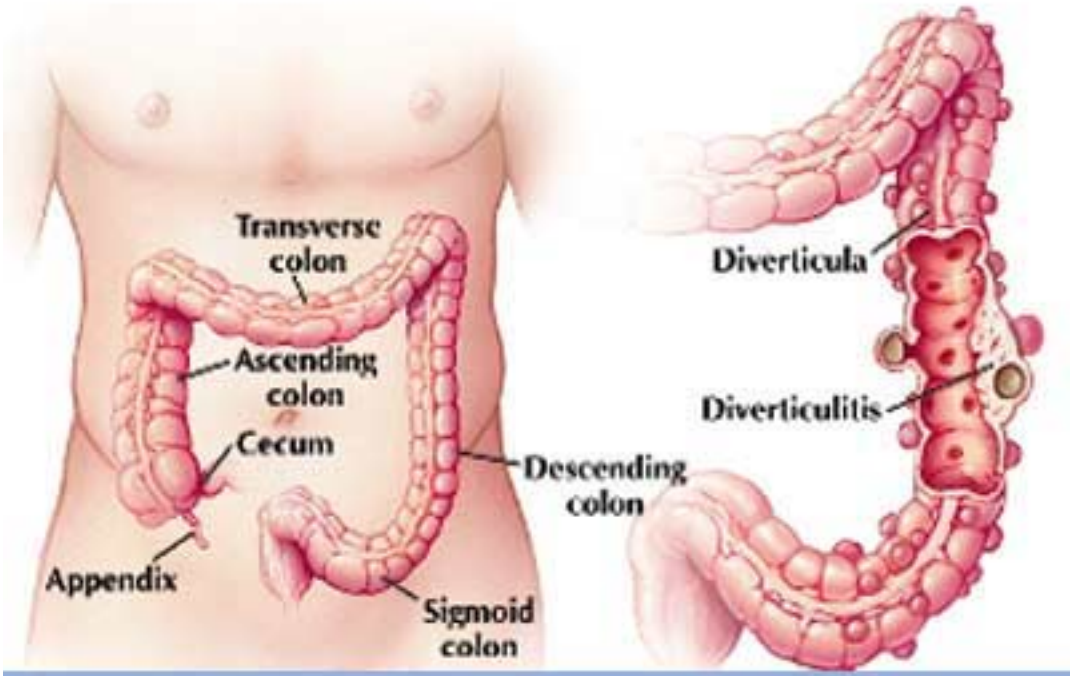
The colon and rectum is about 5 feet long. Food passes through the stomach, then the small bowel, then the colon, and finally the rectum and anus. The small bowel is 12-20 feet and is largely responsible for absorption of nutrients and vitamins in food. The colon absorbs water but the small bowel can assume this function in the absence of the colon. In fact, there are several diseases that require removal of the entire colon and rectum. These patients generally lead normal lives and do not develop malnutrition because their small bowel is intact. Removing a portion or all of the colon and rectum may result in diarrhea, urgency, or gas/stool leakage but usually not.

Symptoms

Symptoms of diverticulitis may include abdominal pain, nausea, vomiting, fever, chills, change in bowel habits (new onset diarrhea or constipation), a feeling of incomplete evacuations, and others. Some of these same symptoms occur in patients with colon cancer and so it is important to differentiate these two diseases. This may be done with colonoscopy or flexible sigmoidoscopy and contrast enema xray, but sometimes requires surgery. Some patients have low-grade symptoms that interfere little with activities of daily living. Others

have episodes that require a visit to the emergency room or admission to the hospital. Some patients may require a CT scan to confirm the diagnosis or evaluate for a possible abscess. A smaller number of patients have severe symptoms of diffuse abdominal pain and distention related to a perforation that ultimately requires emergency surgery. Others may have symptoms related to the urinary tract. These symptoms include urinary urgency and frequency, passing gas or stool out the urinary tract, or frequent urinary tract infections.

Other diseases result in symptoms that may mimic diverticulitis and include irritable bowel syndrome (IBS), ischemic colitis, ulcerative colitis, infectious colitis, Crohn's disease, rarely colon cancer, and others.



At the Time of Your Visit

When you are seen by the colorectal specialist, you will be asked several questions with respect to your history. If you have had blood tests, x-rays, colonoscopy, ultrasound, and CT scans, make sure these are made available to your colorectal specialist prior to your visit. Some of these tests may be ordered by the colorectal specialist if they have not already been done. A general examination to include heart, lungs, and abdomen will likely be performed. Following this examination, if enough information is available, a detailed discussion with your colorectal specialist regarding treatment options will follow.

If your operation involves the possibility of a colostomy or ileostomy, you should have an appointment with the enterostomal nurse prior to surgery. She will provide important

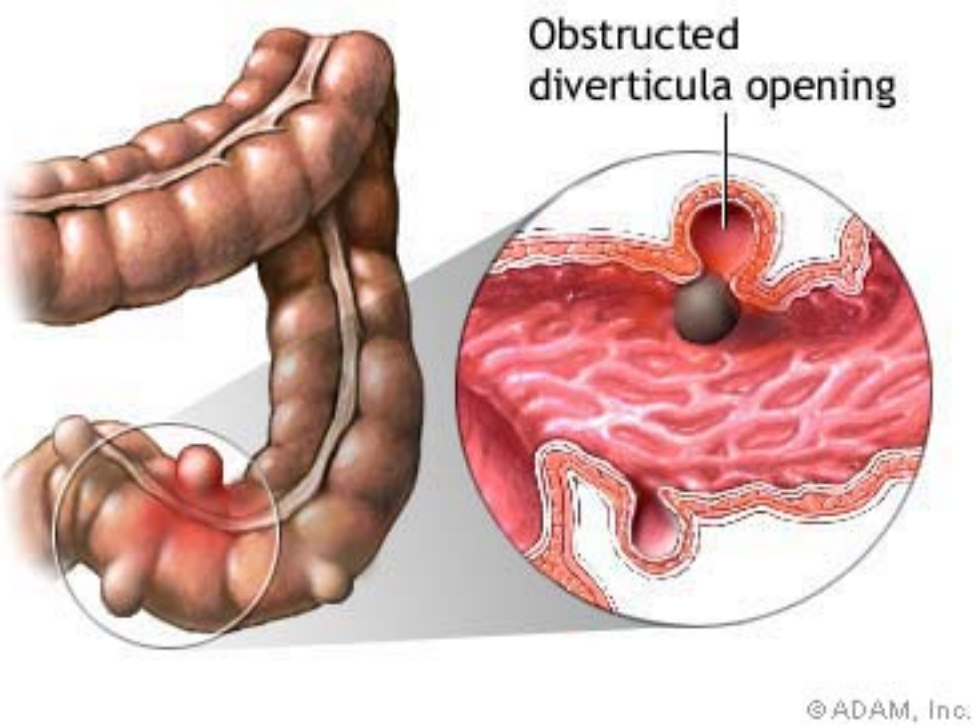
information regarding life with a stoma, educate you regarding any nuances, and may mark an optimum site on your abdominal skin.

At the time your surgery is scheduled, you may be asked to undergo preprocedure testing which may include blood tests, xrays, and an EKG. You will also be instructed in a mechanical bowel prep that will clean out your colon in preparation for surgery and is described below.

Treatment Options

1) High Fiber Diet or Fiber Supplements

20 grams or more of fiber in the diet results in high fiber bowel movements that cause less pressure in the colon and are easier for the colon to propel forward. Unprocessed bran may reduce pain in patients with diverticular disease but does not decrease the incidence of inflammatory attacks, that is diverticulitis.



2) Antibiotics

Some patients with relatively low-grade symptoms may be treated as an outpatient with oral antibiotics. Those that do not respond or those who present with more severe symptoms requiring hospitalization are usually treated with intravenous antibiotics. If your colorectal specialist feels by examination that there is no free perforation, then you may be treated with bowel rest and intravenous antibiotics alone at first. Those patients who resolve their symptoms within 24-48 hours may be well enough to eventually be discharged from the hospital without an operation. If you are a candidate for an elective operation, this will be discussed with you by your colorectal specialist. This group of patients should have a colonoscopy or flexible sigmoidoscopy and contrast xray as an outpatient to exclude colon cancer and other diseases that may mimic diverticulitis. Those patients who do not resolve their symptoms in a short time frame (days) may undergo a CT scan. If an abscess is discovered, this may require drainage with a catheter under guidance of the CT scan. This may allow the infection to resolve enough to allow more elective surgery. Others may require more urgent operation if the abscess is not amenable to drainage.

3) CT Scan-Guided Percutaneous Drainage

As stated above, some patients with diverticulitis do not respond initially to antibiotics or have symptoms that warrant a CT scan. These patients may be found to have an associated abscess. This abscess may be amenable to drainage under CT scan guidance. This may allow the infection to resolve enough to allow surgery to be performed more electively and with less risk for a colostomy.

4) Surgery

Sigmoid Colectomy
Low Anterior Resection
Subtotal Colectomy

Since diverticulitis affects the sigmoid colon about 95% of the time, surgery for diverticulitis usually requires removal of the sigmoid colon. Occasionally this requires removal of a portion of the rectum. This is then referred to as a low anterior resection. After removing the involved portion of colon, the 2 open ends are then sutured or stapled together. Under some circumstances (about 5%) it may be necessary to perform a colostomy (bag) or ileostomy, especially if the operation needs to be done emergently or if the inflammation and scarring is greater than expected.

Surgery is often indicated for patients with complicated diverticulitis. Complicated diverticulitis is defined as diverticulitis associated with perforation, an abscess, obstruction, or a connection between colon and bladder or colon and vagina. Surgery may also be indicated if it is difficult to rule out cancer after standard studies are performed.

The indications for surgery in patients with uncomplicated diverticulitis are less clear. Some would suggest that surgery is indicated in patients who have had 2 episodes of diverticulitis requiring hospitalization. However, some patients may benefit from surgery

even after 1 episode in some circumstances. Others may have 3, 4 or even 5 episodes of diverticulitis and not require surgery. The difficulty lies in predicting which patients with uncomplicated diverticulitis are at risk for complicated diverticulitis, especially those complicated by free perforation, the need for emergent surgery, and the need for a colostomy. Recent literature suggests that most patients who have free perforations do so during their first episode. The decision whether or not to proceed with surgery is made by patient and colorectal surgeon together after discussing options, risks, and benefits to non-operative and operative treatment.

Those patients who are not operated on emergently may be asked to drink a solution that clears the colon and rectum of stool in preparation for surgery. This preparation is usually done at home the day prior to surgery. You may be asked to take antibiotics by mouth every hour for 3 doses after completing the mechanical bowel preparation. You will be asked not to eat or drink anything after midnight prior to surgery but you may take your medications with a sip of water. You will be asked to arrive at the hospital several hours prior to the scheduled surgery time. Upon arrival you will meet the nursing staff who will ask you historical questions and prepare you. You will meet the anesthesiologist who will explain anesthetic options. The vast majority of our patients have an epidural (in the back) or abdominal wall (in the front) anesthetic in addition to a general anesthetic. The epidural catheter is left in your back (well secured) during and after surgery as it is the best method to obtain pain control without many of the mental cloudy side effects.

You will be expected to be up in a chair and walk with assistance as soon as you are awake and alert after surgery. You will be started on liquids as soon as you are awake and alert after surgery, and will be offered a soft diet shortly thereafter. You may be the best judge of what you can and cannot tolerate after surgery. If it is appealing to you, it is probably OK to drink liquids and/or eat food. If it is not appealing, there is no rush. If you have an ileostomy or colostomy, an Enterostomal Nurse will visit you and educate and instruct you with regard to care of the stoma.

The operation best suited for you will be discussed with you in detail at the time of your office visit or during your hospital stay in you are an inpatient. The operation is typically done through a midline (up and down) incision. Some patients may be candidates for laparoscopic or robotic (minimally invasive) surgery in which case the incisions may be much smaller. Options and risks will be discussed at length at this time. If anything is not clear or if you have questions, you should feel free to ask your colorectal specialist.

Risks of Surgery

Our hope and expectation is that you have uncomplicated surgery and a successful outcome. This is not always predictable, however, and something that cannot be guaranteed.

The risks of surgery for diverticulitis include

1) bleeding

2) infection