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 intracolonic pressures 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 differentiation may be done with colonoscopy or flexible sigmoidoscopy and barium 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 of these 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 and 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 will be asked to undergo preprocedure testing which may include blood tests, a chest xray, and an EKG. You will also be instructed in a mechanical bowel prep which 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. Generally those patients who resolve their symptoms within 24-48 hours may be well enough to eventually be discharged from the hospital without an operation. Whether or not these patients are candidates for an elective operation will be discussed with them by the colorectal specialist. This group of patients should have a colonoscopy or flexible sigmoidoscopy and barium 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 who do not respond initially to antibiotics or who have symptoms that warrant a CT scan, may be found to have an associated abscess. This abscess may be amenable to drainage under CT scan guidance. This may allow infection to resolve enough to allow a mechanical bowel preparation which may allow surgery to be performed with less risk for a colostomy.

4) Surgery

Sigmoid Colectomy
Low Anterior Resection

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 back 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 usually indicated for patients with complicated diverticulitis. Complicated diverticulitis is defined as diverticulitis associated with perforation, 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. Most would agree 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. 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. In these circumstances, the decision is made by patient and colorectal surgeon together after discussing options, risks, and benefits to nonoperative 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. 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 anesthetic in addition to a general anesthetic. The epidural catheter is left in your back (well secured) for about 4 days 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 walk with or without assistance the day after surgery. We expect you to feel comfortable especially if you have an epidural catheter in place. You will likely be started on liquids within 1-3 days after surgery and will be eating regular food prior to discharge from the hospital. 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 most suited for you will be discussed with you in detail at the time of your office visit. The operation is typically done through a midline (up and down) incision. 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 during this office visit.

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
    a. abdominal wound or intra-abdominal infection or abscess

3) anastomotic leak (suture or staple line leak)
    a. may require antibiotics, longer hospitalization, drainage with CT scan guidance, or another surgery to resolve
    b. may require temporary or permanent colostomy or ileostomy
    c. may result in death from sepsis

4) abscess
    a. may require antibiotics, longer hospitalization, drainage with CT scan guidance, or another surgery to resolve

5) bowel movement frequency
6) bowel movement leakage
7) bowel movement urgency

8) injury to ureter
    a. structure than carries urine from kidneys to bladder

9) injury to other bowel and blood vessels

10) injury to or dysfunction of urinary bladder

11) bowel obstruction
    b. usually from adhesions from surgery
    c. can occur in 10-20% of patients
    d. may require another operation

12) ileus
    a. the bowels normally stop working for a few days after surgery. If they continue not to function after this, it is referred to as an ileus

13) sexual dysfunction
    a. impotence or retrograde ejaculation in men (rare)
    b. depends on age and level of rectal dissection
    c. pain with intercourse in women

14) possible temporary or permanent colostomy (bag) or ileostomy

15) stoma complications
    a. for those patients with ileostomy or colostomy
    b. retraction, ischemia (poor blood supply), hernia, prolapse

16) general operative complications
    a. heart attack : especially those with heart history
    b. pneumonia
    c. sepsis
    d. blood clot in leg
    e. blood clot from leg to lung (can be life threatening)
    f. urinary tract infection
    g. leg nerve injuries (result of retractors or leg stirrups: rare)

17) incisional hernia
    a. may require operation to repair

18) anastomotic stricture
    a. may result in constipation (unusual)
    b. may require dilation through scope to repair
    c. may require operation to repair

19) persistent abdominal pain

20) possible death

After Surgery

After major abdominal surgery, expect to be in the hospital 5-8 days. Some patients are ready for discharge as early as 4 days after surgery. Some may remain longer than 8 days if the bowels are slow to recover or if a complication developes. The specimen removed at the time of surgery is sent to the pathologist who examines it. About 4 working days (not including Saturday and Sunday) after surgery, a pathology report will be generated. You colorectal surgeon will review this report with you and discuss its implications.

After Discharge

Prior to discharge from the hospital, you will receive oral and typewritten discharge instructions. If you have an abdominal incision you should not lift anything greater than 10 pounds for 6 weeks from your surgery date. Unless otherwise instructed you may eat a regular diet, walk, climb stairs. You should not drive until at least your first office visit at which time you will be further instructed. You may ride in a car. You should call our office (734-712-8150) if you develop a fever > 100.5 degrees and should take your temperature at least 4 times a day. You should also call for nausea, vomiting, problems with the incision including unusual pain, redness, warmth, swelling, separation of skin or underlying tissues, constipation or diarrhea, or other problems that you feel need to be addressed. If you develop chest pain or shortness of breath or leg swelling, you should call your primary physician or our office or come to the emergency room. If you feel it is an emergency, call 911.

Most patients take 6 weeks off from work after having abdominal surgery. You may feel more tired than usual. You may take naps more frequently than usual. Do not be alarmed if you feel fatigued and are not your old self for about 6 weeks after surgery.

Colorectal Cancer Screening

Those individuals without risk factors for colorectal cancer (rectal bleeding, positive family history of colon cancer) should be screened for colon cancer starting at age 50 years. There are several options which include testing stool for blood, flexible sigmoidoscopy, and

colonoscopy. You should discuss the most appropriate option with your primary care physician or colorectal specialist. If you have rectal bleeding, colorectal cancer screening may be warranted at an earlier age depending on other factors involved. If you have a first degree relative with colorectal cancer, you should have colonoscopy starting at age 40 years or 10 years prior to the age of the youngest relative with colorectal cancer. The test should be repeated every 3 to 5 years if normal and possibly sooner if polyps are found. If you have had colorectal cancer or polyps, your relatives should be screened by colonoscopy.

Others at risk for colorectal cancer that warrant further investigation are those with a history of inflammatory bowel disease (ulcerative colitis and Crohn's disease) and possibly those with other cancers (breast, uterus, ovary). At this time, many colorectal specialists advocate 2 colonoscopies 10 years apart starting at age 50 for those without other risk factors. Again, you should discuss these options with your colorectal specialist.

Websites

For additional information try the American Society of Colon and Rectal Surgeons at www.fascrs.org and www.uoaa.org