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Diverticular Disease of the Colon

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What Is Diverticulosis?

Diverticulosis refers to the presence of small out-pouchings (called diverticula) or sacs that can develop in the wall of the gastrointestinal tract. While diverticula can be present anywhere in the intestines, they are most common on the left side of the large intestine, the area known as the descending and sigmoid colon.

How common is diverticulosis?

Diverticulosis is a common disorder, especially in older people. The condition is uncommon in people under the age of 30 years of age, and is most common in those over 60. Diverticulosis may be somewhat more common in men than in women.

What causes diverticulosis?

No one knows for certain why diverticulosis develops; however, a few theories have been suggested. Some experts believe that abnormal intermittent high pressure in the colon due to muscle spasm or straining with stool may cause diverticula to form at weak spots in the colon wall. Historically, low-fiber diets were felt to play a role in the development of diverticulosis. However, recent studies suggest that this is not the case. In two studies, patients with diverticulosis were not more likely to have diets low in fiber or to be constipated than patients without diverticulosis. There also appears to be a genetic predisposition to diverticulosis; that is, if your parent or sibling has diverticulosis, you may be more likely to develop it than someone who does not have a family member with this disorder.

What are the symptoms of diverticulosis?

Most patients with diverticulosis have no symptoms or complications, and will never know they have the condition unless it is discovered during an endoscopic or radiographic (X-ray) examination. Some individuals may experience chronic pain or discomfort in the left lower abdomen, bloating, and/or a change in bowel habits that may be related to having diverticulosis or a past history of diverticulitis.

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How is diverticulosis diagnosed?

Diverticulosis is generally discovered through one of the following examinations:

- Barium enema: This x-ray test involves putting liquid material into the colon through a tube placed in the rectum. The x-ray image shows the outline of the colon, and can identify if diverticula, large polyps or growths are present.
- Colonoscopy: This test uses a thin, flexible tube with a light and camera to view the inside of the colon. Diverticula as well as polyps and other abnormalities can be seen with this instrument.
- CT scan: This radiology test takes multiple cross-sectional pictures of the body. It is not generally performed to make a diagnosis of diverticulosis, but this type of exam, when done for other reasons, may identify diverticula.

Can diverticulosis be prevented or eliminated?

It is not known whether diverticulosis can be prevented. As noted above, the amount of fiber that one eats does not appear to be related to the development of diverticulosis, so eating a high-fiber diet may not prevent diverticulosis. Individuals who are overweight or obese are more likely to have diverticulosis. Smoking may also increase the possibility of developing diverticulosis. Therefore, maintaining a healthy weight and abstaining from smoking may decrease the possibility of developing diverticulosis. Once diverticula have formed, they do not go away.

What are the complications of diverticulosis?

Diverticulitis is inflammation of one or a few diverticula in the same area of the colon (usually the sigmoid or descending colon). Diverticulitis occurs in less than 5% of people who have diverticulosis. People with diverticulitis characteristically present with the fairly sudden onset of pain in the abdomen, usually on the lower left side. Other common symptoms include fever, diarrhea and/or constipation, decreased appetite, nausea and fatigue.

People with diverticulitis can develop related complications including:

- *Abscess* – a collection of infected fluid outside of the intestinal/colon wall.
- *Stricture* – a narrowing of the colon in the area of diverticulitis
- *Fistula* – a connection between the bowel and nearby organs including the bladder or the vagina.
- *Perforation* – a hole in the colon that allows bowel contents to leak into the abdomen. This is the most serious complication of diverticulitis.

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Bleeding can occur from a rupture in one of the vessels that lines a diverticulum. Bleeding from diverticulosis is a less common complication of diverticulosis than diverticulitis. Patients with this condition typically pass a large amount of red or maroon blood from the rectum. The bleeding tends to occur without warning and there is no associated abdominal pain. Most bleeding will stop on its own. However, endoscopic examination of the colon may be necessary to diagnose and treat the bleeding. Nuclear medicine bleeding scans (a type of radiology test) can also be used to identify the site of the diverticular bleeding if endoscopy does not or if bleeding is very severe. Occasionally, angiography (injection of dye into the abdominal blood vessels by a radiologist) is needed to identify and treat diverticular bleeding. In rare cases in which endoscopic or radiologic management fails to control the bleeding, surgery may be necessary to remove the part of the colon that is bleeding.

Treatment of diverticulitis

Diverticulitis is typically treated with antibiotics and a liquid or low-residue diet until symptoms improve (similar to a low-fiber diet). However, some studies suggest that patients with mild diverticulitis who do not have an abscess or perforation (see above), and are otherwise healthy can be managed without antibiotics. People with severe diverticulitis (high fever, signs of severe infection) or with complications (abscess, perforation) require antibiotics and are usually treated in the hospital. Radiologic guided drainage (via a tube placed in the abdomen) may be needed to drain large abscesses. Surgery may be needed for cases that do not respond to medical management or for patients with perforation. A temporary colostomy (drainage of stool from the intestine into a bag on the outside of the abdomen) may be required during surgery for complicated diverticulitis. The colostomy is usually temporary.

Can diverticulitis be prevented?

People with diverticulosis are sometimes instructed to avoid foods that contain indigestible particles such as popcorn, nuts, and fruits with small seeds. However, a large study with detailed information on diet found that people who frequently ate nuts or popcorn were NOT more likely to experience diverticulitis than those who did not eat these foods. Therefore, it is no longer recommended that people with diverticulosis or diverticulitis avoid these foods.

People who eat a diet high in fiber are less likely to develop diverticulitis than those who eat little fiber (although, as noted above, a high-fiber diet does not appear to decrease the chances of developing diverticulosis). Reducing the amount of red meat in the diet may also decrease the possibility of diverticulitis.

Studies show that people who maintain a healthy weight and/or exercise regularly are less likely to develop diverticulitis and diverticular bleeding than those who are overweight or who do not exercise. Avoiding smoking is also likely to help prevent diverticulitis, especially perforated diverticulitis.

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Minimizing the use of non-steroidal anti-inflammatory drugs, such as ibuprofen and aspirin, may decrease the chances of developing diverticulitis. However, if you take aspirin for your heart or blood vessels, you should not stop aspirin without talking to your doctor. Opiate narcotics and corticosteroids also appear to predispose to diverticulitis.

Several different medications have been studied in hopes of preventing recurrent diverticulitis in patients who have had one or more attacks. Unfortunately, the best studied drug, mesalamine, has not reduced the likelihood of recurrent diverticulitis. There are only a few small studies on the use of probiotics (healthy bacteria) or rifaximin (a kind of antibiotic), so it isn't clear if these medications might help reduce recurrent diverticulitis.

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