Barrett's Esophagus

Patricia L. Raymond, MD FACP FACG
Simply Screening , *Total Endoscopic Health & Prevention*

One of the most concerning complications which can occur with acid reflux disease, Barrett's esophagus was first described by a pathologist named Dr. Barrett in an article published in 1950. In Barrett's esophagus, the lower portion of the esophagus, in order to protect itself against the chronic reflux of acid, transforms its lining to closely resemble small intestinal lining.

Acid reflux symptoms may indicate Barrett's in ten to thirty-six percent of those affected, and people with reflux symptoms should be screened for this condition.

What is Barrett's Esophagus?
Barrett's esophagus is a condition in which the lining of the bottom one and a half inches or more of the esophagus (called "distal" esophagus) transforms from esophagus lining cells into small intestinal lining cells.

It appears that reflux of acid into the distal esophagus destroys the lining there, which is then replaced with lining cells that look like either stomach or small intestine cells rather than esophagus. This change is astounding in the human body, almost as if a kidney suddenly became an eye. This "metaplastic" change may occasionally occur before development of a precancerous or cancerous esophagus.

It is not understood why this condition occurs in some people with acid reflux, but not in others.

How often does Barrett's esophagus occur?
It is difficult to determine the true frequency of Barrett's esophagus as many people with this condition are asymptomatic. However, among people who have acid reflux symptoms, Barrett's esophagus occurs in approximately ten to thirty-six percent.

It is most common in white men from fifty to sixty years old who use tobacco or drink alcohol.

What are the symptoms of Barrett's esophagus?
Barrett's esophagus symptoms are identical to acid reflux with heartburn, an acid taste in the mouth, and occasional regurgitation of food. Although these symptoms are the same as those of acid reflux they are often less severe, as the new special lining of the distal esophagus is less sensitive to acid splash injury.

How is Barrett's esophagus diagnosed?
Upper endoscopy (EGD) is the "gold standard" for diagnosis. In endoscopy, the distal esophagus loses its normal pale shiny pink color and appears a deep pink with velvety texture with a jagged, "flame shaped" edge between stomach and esophagus. Biopsies should be obtained through the endoscope and examined by a pathologist under a microscopy to confirm that the tissue is like that of small intestine. These biopsies will also tell the physician if there are precancerous changes.

What are the complications of Barrett's esophagus?
There are three main complications of Barrett's esophagus: stricture, ulcer, and dysplasia or cancer.

People with Barrett's esophagus who develop a stricture usually get a narrowed area at the junction of where the still normal esophagus and the changed lining occur. These strictures or narrowing occurs in thirty-six percent of people with Barrett's and generally require biopsies to make sure that no cancer is present and then are dilated during upper endoscopy.

Ten to fifteen percent of people with Barrett's esophagus may develop an ulcer in their esophagus. This ulcer in the esophagus, similar to ulcers that occur in the stomach or small intestine, may bleed or perforate.

The most concerning complication of Barrett's esophagus is dysplasia or cancer. Dysplasia, an early change toward cancer, occurs in as high as five to ten percent of people with Barrett's, with one percent of the people with Barrett's developing esophageal cancer. This is why people with Barrett's esophagus require vigorous treatment of their reflux and close follow up.

How is Barrett's esophagus treated?
Barrett's is treated first with life-style changes, as in done in all people with acid reflux. This anti-reflux treatment might include standard measures such as elevation of the head of the bed on blocks, weight loss, discontinuation of alcohol and cigarettes, and no eating late at night or eating of foods which could worsen reflux.

Aggressive medical management generally with drugs called PPIs or "proton pump inhibitors" (such as Prevacid, Aciphex, Nexium, Protonix or Prilosec) control the acid well, although occasionally high doses are required. In some people with acid reflux, aggressive medical management to control symptoms may require these acid-lowering drugs and medicines which improve the movement of the esophagus such as Reglan (Metaclopramide). With the aggressive medication available, sixty to eighty percent can achieve symptom relief.

Updated 4/06

Anti-reflux surgery (the most common of which is called "Nissen fundiplication") tightens the bottom end of the esophagus and relieves symptoms best in most people. Unfortunately, even with aggressive management such as surgery, only eleven percent of people with Barrett's esophagus have regression or shortening of the area of Barrett's. No patients with esophageal anti-reflux surgery on a study of this surgery were completely resolved of their Barrett's with such surgery. In addition, although aggressive management with surgery does improve symptoms and yield some partial regression, there was no change in the number of people that developed dysplasia or precancerous changes in the esophagus.

Many people are good candidates for surgical treatment with Nissen fundiplication. First, your physician needs to do a test of the esophagus to confirm that the esophageal motion is strong enough (esophageal manometry study) to do such a surgery. An anti-reflux surgery might allow a life-style not requiring medications to control symptoms. Although 60 to 80 percent of people with Barrett's have success in relieving symptoms with medical management, upon stopping medications almost all have return of their symptoms.

If during screening endoscopies for Barrett's esophagus biopsies reveal severe dysplasia or cancer, surgical removal of the esophagus is needed. This procedure is major surgery, requiring the removal of the esophagus and its replacement either with a portion of colon or with the stomach being moved up into the chest. Newer treatments with laser light treatments up to the severe Barrett's may decrease the number of patients requiring this radical surgery.

What is appropriate follow-up for Barrett's esophagus?
The appropriate surveillance or follow-up for Barrett's esophagus remains quite controversial.

It is the aim of the follow-up examinations by endoscopy to detect early any transformation of the Barrett's esophagus tissue to dysplasia or to cancer.

Presently, the suggested surveillance is to evaluate the esophagus every one to two years with upper endoscopy. Multiple biopsies should be taken at several levels within the esophagus. If dysplasia is noted, more frequent endoscopy with biopsies or surgical resection may be required.

What is the future of treatment of Barrett's esophagus?
Several different treatments for Barrett's esophagus are presently under research, though the appropriate treatment has not yet been established.

Some physicians advocate electro coagulation or cautery of the esophagus through the endoscope. Others suggest giving a drug either orally or through and IV which causes photosensitivity of the Barrett's tissue, and then flashing the esophagus via an endoscope with light to the Barrett's tissue to burn that tissue away. It has been reported as the lining heals, it regrows as normal esophagus tissue. It has not yet been proven that this change back reduces the cancer risk, or if the change back to normal cells is permanent.

Several studies have been done using high dose proton pump inhibitor (PPI), using Prilosec as high as three times the usual dosages. The results of those studies have been controversial, showing a modest, but significant decrease in the length of the Barrett's. However, despite initial enthusiasm, it does not appear that significant regression of the Barrett's epithelium can be achieved with high doses proton pump inhibitors over a prolonged period of treatment.

Anti-reflux surgery, although yielding symptomatic improvement in acid reflux, does not significantly and consistently lead to reduction in length or extension of Barrett's esophagus and does not prevent the development of dysplasia or progression to cancer.

At present, our best treatment of Barrett's esophagus is watchful waiting with examinations every one to two years and multiple endoscopic biopsies looking for cancer or precancerous changes.

An Educational Service of:
Patricia L. Raymond, MD, FACP, FACG
680 – D Kingsborough Square, Chesapeake, VA 23320
757-54SCOPE (547-2673) fax 757-547-7727

Updated 4/06