CONDITION

Barrett esophagus

Learn how Barrett esophagus affects the lining of the esophagus, how it is diagnosed, and how monitoring and treatment can reduce cancer risk.

WHAT IT IS
Change in the lower esophageal lining

BODY SYSTEM
Digestive

MAIN SYMPTOMS
Heartburn, sour fluid rising, chest discomfort, frequent belching

WHAT CAUSES IT
Repeated injury from reflux

HOW IT IS DIAGNOSED
Upper endoscopy with biopsy microscopy

MAIN TREATMENT
Reflux control, monitoring, endoscopic tissue removal

CAN IT BE CURED?
Sometimes, Barrett tissue can be eradicated

IS IT AN EMERGENCY?
Sometimes, vomiting blood or inability to swallow

LONG-TERM OUTLOOK
Most do not develop esophageal cancer

Overview

Barrett esophagus is a change in the tissue lining the lower part of the esophagus. The esophagus is the tube that carries food from the mouth to the stomach. Normally, it is lined with flat cells. In Barrett esophagus, some of these cells are replaced by cells that resemble those found in the intestine.

This change is called intestinal metaplasia . It often develops after years of exposure to stomach contents from gastroesophageal reflux disease, or GERD. GERD occurs when stomach contents repeatedly flow backward into the esophagus.

Barrett esophagus is not cancer. Most people with the condition do not develop esophageal cancer. However, Barrett tissue has a higher chance than normal esophageal tissue of developing abnormal cells over time. These precancerous changes are called dysplasia .

The main reason Barrett esophagus matters is that appropriate monitoring can identify dysplasia or early cancer when treatment is more likely to be effective. Management may include controlling reflux, periodic upper endoscopy, or removing abnormal tissue.

Barrett esophagus cannot be diagnosed from symptoms alone. It must be confirmed through an upper endoscopy and examination of tissue samples under a microscope.

Symptoms

Barrett esophagus itself usually does not cause symptoms. When symptoms occur, they are generally related to GERD rather than the changed tissue.

Possible reflux symptoms include:

Some people with Barrett esophagus have little or no reflux discomfort. The absence of heartburn does not show whether Barrett tissue is present or whether it has changed.

New or worsening difficulty swallowing should be assessed promptly. Other concerning symptoms include pain with swallowing, unexplained weight loss, persistent vomiting, vomiting blood, black stools, or symptoms of anemia such as unusual weakness or shortness of breath. These symptoms have several possible causes and do not necessarily mean cancer, but they require medical evaluation.

Seek emergency care if food is stuck and you cannot swallow liquids or saliva, or if you have vomiting of blood, black stools with faintness, severe chest or abdominal pain, or trouble breathing.

- Burning discomfort behind the breastbone, often called heartburn
- Sour or bitter fluid rising into the throat or mouth
- Upper abdominal or chest discomfort
- Frequent belching
- Cough, hoarseness, or throat irritation
- Symptoms that become worse after meals or when lying down

Causes and risk factors

Barrett esophagus is thought to result mainly from repeated injury to the lower esophagus caused by reflux. Stomach acid is one part of refluxed material, but other stomach and intestinal contents may also contribute. As the tissue heals, it may develop the specialized

lining seen in Barrett esophagus.

Not everyone with GERD develops Barrett esophagus. Factors associated with a higher likelihood include:

Race is an observed population-level association, not a biological rule. People from any racial or ethnic group can develop Barrett esophagus.

A hiatal hernia may also be associated with Barrett esophagus. This occurs when part of the stomach moves upward through the opening in the diaphragm. It can make reflux more likely.

Because Barrett esophagus is uncommon in people without relevant risk factors, routine screening is not recommended for everyone. A clinician may discuss a one-time screening endoscopy when chronic GERD occurs along with several additional risk factors. The decision should account for overall health, family history, age, and whether a person could benefit from further monitoring or treatment.

- Long-standing or frequent GERD
- Older age, especially after age 50
- Male sex
- Excess weight around the abdomen
- Current or past tobacco use
- A parent, sibling, or child with Barrett esophagus or esophageal adenocarcinoma
- White race in population studies

Diagnosis

Barrett esophagus is diagnosed with an upper endoscopy , also called esophagogastroduodenoscopy or EGD. During this procedure, a clinician passes a thin, flexible tube with a camera through the mouth. Sedation is commonly used. The camera allows the clinician to examine the esophagus, stomach, and first part of the small intestine.

Barrett tissue may have a different color and texture from the usual esophageal lining. Appearance alone is not enough for diagnosis. Small tissue samples, called biopsies, are taken from the changed area. A pathologist then examines the samples under a microscope.

Biopsy results may be described as:

Dysplasia can be difficult to classify. When it is suspected, guidelines recommend confirmation by a pathologist with expertise in gastrointestinal disease. A repeat endoscopy may also be needed, particularly if inflammation could have affected the biopsy findings.

If a raised, depressed, nodular, or otherwise unusual area is found, the clinician may remove it during endoscopy. Examining the entire removed area can provide more accurate information than small biopsies alone.

- No dysplasia: Barrett tissue is present, but no precancerous cell changes are seen.
- Indefinite for dysplasia: Inflammation or another issue makes it difficult to tell whether dysplasia is present.
- Low-grade dysplasia: Early precancerous changes are present.
- High-grade dysplasia: More advanced precancerous changes are present, with a greater risk of existing or future cancer.
- Cancer: Abnormal cells have grown beyond the definition of dysplasia.

Treatment and management

Treatment depends mainly on whether dysplasia is present. The length of the Barrett segment, other health conditions, and personal preferences may also affect the plan.

For Barrett esophagus without dysplasia, management usually includes treatment of reflux and periodic endoscopic monitoring. Proton pump inhibitors like omeprazole or lansoprazole , or PPIs, reduce stomach acid and help heal reflux-related inflammation. A clinician can review the expected benefits, possible adverse effects, and whether a PPI is appropriate.

Reflux symptoms may also improve with practical changes such as:

There is no universal list of foods that everyone with Barrett esophagus must avoid. Symptom triggers differ from person to person.

Antireflux surgery may be considered for selected people whose reflux is not adequately controlled or who have another reason for surgery. It is not generally used solely to prevent cancer in Barrett esophagus. Surgery also does not remove the need for surveillance when Barrett tissue remains.

Confirmed low-grade dysplasia may be managed with endoscopic eradication therapy or, in selected cases, close surveillance. The choice should follow review by clinicians experienced in Barrett esophagus.

Endoscopic eradication therapy is generally recommended for confirmed high-grade dysplasia and many very early cancers. Treatment commonly involves:

Radiofrequency ablation is a commonly used heat-based method. Cryotherapy uses cold and may be an option in some situations. More than one treatment session is often needed.

Surgery to remove part of the esophagus, called esophagectomy, may be appropriate for cancer that extends more deeply or cannot be managed safely with endoscopic treatment. This is major surgery and requires careful assessment by a multidisciplinary team.

Aspirin and other anti-inflammatory medicines are not routinely started solely to prevent cancer in Barrett esophagus. They can cause bleeding and have other risks. Anyone considering them should discuss the reason, benefits, and risks with a clinician.

- Avoiding meals within a few hours of lying down
- Raising the head of the bed when nighttime reflux is a problem
- Working toward a sustainable weight when excess weight contributes to reflux
- Avoiding tobacco
- Limiting foods or drinks that clearly trigger personal symptoms
- Endoscopic resection: A visible abnormal area is lifted or cut away through the endoscope.
- Ablation: Remaining Barrett tissue is destroyed using controlled heat, cold, or another method so that new lining can grow.

Complications

The main long-term concern is esophageal adenocarcinoma, a type of cancer arising from gland-like cells. The individual risk is influenced strongly by whether dysplasia is present. For a person with Barrett esophagus but no dysplasia, the absolute risk of cancer is low, although it is higher than in someone without Barrett tissue.

Reflux can also cause inflammation, ulcers, bleeding, or scarring. Scar tissue may narrow the esophagus, producing a stricture that makes swallowing difficult.

Endoscopic treatment has its own possible complications. These include pain, bleeding, narrowing of the esophagus, and, less commonly, a tear or hole in the esophageal wall. A treatment team should explain these risks before the procedure. Narrowing after treatment can often be managed by gently stretching the area during another endoscopy.

Even after successful eradication therapy, Barrett tissue or dysplasia can return. Continued follow-up is therefore important.

Follow up

Follow-up plans are based on biopsy results and the quality of the endoscopic examination.

When no dysplasia is found, surveillance endoscopy is usually performed at intervals measured in years. Current guidance uses the length of the Barrett segment as one factor: shorter segments may be monitored less often than longer ones. The exact schedule should come from the treating gastroenterologist because recommendations may change and individual findings matter.

Indefinite or abnormal biopsy results generally require earlier reassessment. This may include improving control of esophageal inflammation, repeating the endoscopy, and obtaining expert pathology review. Confirmed dysplasia requires a focused discussion about eradication therapy or close surveillance.

After ablation or removal of abnormal tissue, scheduled endoscopies check whether Barrett tissue has cleared and whether it has returned. Keeping these appointments is important even when reflux symptoms are absent.

Contact the treating clinic between routine visits for progressive swallowing difficulty, pain with swallowing, unexplained weight loss, persistent vomiting, signs of bleeding, or a major change in reflux symptoms. These concerns should not wait for the next planned surveillance appointment.

It can be helpful to keep copies of endoscopy and pathology reports. Important details include the length of the Barrett segment, whether dysplasia was found, whether an expert pathologist reviewed the samples, and the recommended timing of the next procedure.

Sources

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