A 66-year-old Asian woman presents with chronic heartburn and epigastric discomfort. She has suffered with these symptoms most of her adult life and underwent multiple upper gastrointestinal series in her homeland, China. The radiologic studies were reportedly normal. She immigrated to the United States several years ago, and her symptoms persisted and worsened recently. There is no history of dysphagia or weight loss. She does not smoke or consume alcohol. Her symptoms have continued despite treatment with a proton pump inhibitor. Past history is unremarkable. Family history is positive for gynecological cancer in her mother and lung cancer in her brother. Physical examination is negative including stool guaiac.

1. The most appropriate approach to this patient is to:
   - a. Increase the dose of proton pump inhibitor
   - b. Seek surgical consultation for antireflux surgery
   - c. Perform upper gastrointestinal endoscopy
   - d. Obtain an abdominal CT scan
   - e. Treat for *Helicobacter pylori*

2. The photograph reveals:
   - a. An ulcerated mass in the antrum of the stomach
   - b. An esophageal tumor
   - c. Linitis plastica
   - d. Hiatal hernia
   - e. Barrett’s esophagus

1. The correct answer is **c**. This patient with chronic intractable heartburn and abdominal discomfort should undergo direct visualization of the upper gastrointestinal tract. Endoscopy is the most sensitive and accurate diagnostic tool in this setting. Increasing the dose of the proton pump inhibitor would probably be ineffective and is associated with a risk of obscuring a serious underlying process. Consideration of antireflux surgery, abdominal CT scan, or empiric therapies for *H pylori* is premature without further evaluation.

2. The correct answer is **a**. In the endoscopic photograph, an ulcerated mass can be seen on the anterior wall of the gastric antrum. The findings are not consistent with any of the other choices.
Biopsies revealed adenocarcinoma, and the patient underwent gastrectomy. The lesion was well differentiated and infiltrated into the submucosa only. Lymph nodes were negative.

There are approximately 20,000 cases of gastric adenocarcinoma in the United States annually. The incidence in the United States is highest in blacks and in Asian Americans. Japan has the highest incidence of gastric cancer worldwide, approaching 80 per 100,000. The average age of onset is 63 years old with males being affected twice as often as females.

Most gastric cancers arise in the distal portion of the stomach, with the majority occurring in the antrum. However, in the United States over the past few decades, there has been a dramatic decrease in these distal cancers with an increase of the more proximal gastric carcinomas.

A strong risk factor for developing distal gastric cancer is H pylori infection causing chronic gastritis. The relative risk is approximately fivefold, and up to 90% of cases of distal gastric cancer may be attributed to H pylori. The long-term ingestion of high concentrations of nitrates in dried, smoked, and salted foods also appears to be associated with an increased risk. Other possible contributing factors include adenomatous polyps, pernicious anemia, chronic atrophic gastritis, and a history of partial gastric resection.

Gastric carcinoma is generally asymptomatic until the disease is advanced. Symptoms are nonspecific and may be related to their location. They include dyspepsia, epigastric pain, early satiety, dysphagia, and weight loss. Guaiac-positive stools may be present along with iron deficiency anemia. Signs of metastatic spread include Virchow’s node (supraclavicular), Sister Mary Joseph nodule (umbilical), Blumer’s shelf (rectal), and Krukenburg’s tumor (ovarian).

Gastric adenocarcinoma has many different morphological forms. "Early" gastric cancer is described as being confined to the mucosa or submucosa with or without lymph node metastasis and has an excellent prognosis. Other types of gastric cancer include fungating, ulcerating, and diffuse, and all of these have a worse prognosis than the "early" form. A prospective study has shown that "early" gastric cancer progresses to advanced cancer on average in 37 months. For this reason it has been recommended that patients with recurrent or intractable ulcer symptoms undergo endoscopy.

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