

Barrett's Esophagus: Etiology, Management, and Relevance for Western and Asian Physicians

David Fleischer, M.D.

Staff Physician, Mayo Clinic Arizona; Professor of Medicine, Mayo Clinic College of Medicine

In most countries Barrett's is defined as a change in the esophageal epithelium of any length due to reflux of gastric contents that can be recognized at endoscopy and confirmed to have intestinal metaplasia of the tubular esophagus by biopsy. It is associated with esophageal reflux, which affects 60 million people in the United States. Approximately 10% of those have Barrett's. The key risk factors in addition to longstanding reflux are having a first-degree relative with Barrett's, being male and Caucasian, having a hiatal hernia and having central obesity. The significance of Barrett's is it is the most important risk factor for adenocarcinoma of the esophagus, which is the fastest increasing cancer in the United States. The diagnosis is usually made with endoscopy and biopsies and is arbitrarily classified as short segment (less than 3 cm) and long segment (greater than 3 cm). The management is based on the histological stage at the time of diagnosis and reflux is thought to generate a transition from squamous cells to intestinal metaplasia to low-grade dysplasia, to high-grade dysplasia and then to adenocarcinoma of the esophagus. The American GI societies have issued guidelines on the management of Barrett's. They were put forth by the AGA (2011); the ASGE (2012) and the most recent guidelines by the American College of Gastroenterology are from November, 2015 (*American Journal of Gastroenterology*; 2015, vol. 110, pp. 1-21). For high-grade dysplasia, endoscopic therapy is usually recommended; for low-grade dysplasia, either endoscopic therapy or surveillance; for intestinal metaplasia only surveillance is recommended in most cases, although patients thought to be at "high risk" could be treated. For endoscopic treatment, EMR is suggested for nodular disease and thermal therapies for flat disease. Radiofrequency ablation is more commonly used than cryotherapy or other treatments. Guidelines for surveillance after endoscopic therapy are not well-defined.

A review of the prevalence of Barrett's in Asian countries has recently been published (*Clinical Gastroenterology and Hepatology*; 2015, vol. 13, pp. 1907-1918). The pooled prevalence was 7.8% and histologically confirmed Barrett's was 1.3%. Most of the histologic Barrett's was short segment. There was a trend towards an increase in the prevalence of Barrett's in 1991-2014. Within the cohorts, the pooled prevalence of low-grade, high-grade and esophageal adenocarcinoma was 6.9%, 3% and 2%. Reflux symptoms, male sex, hiatal hernia and smoking were associated with a significantly increased risk of histologic Barrett's. Half the patients with histologic Barrett's did not have reflux symptoms. A study by Lee reviewing Barrett's and reflux esophagitis among Chinese in Taiwan concluded that patients with Barrett's had significantly stronger acid reflux, decreased lower esophageal sphincter pressure and weaker distal esophageal

peristalsis (Internal Medicine; 2008, vol. 47, p. 1767). A report on the current status of Barrett's esophagus research in Asia (Chang CY. General Gastro Hep; 2011, vol. 26, p. 240) concluded that more studies of Barrett's in Asia were warranted. Kao reported on Barrett's esophagus in Taiwan and concluded that the frequency of esophageal and extra-esophageal symptoms in patients with Los Angeles Grade A, B esophagitis was higher than those with patients Grade C, D (Gastroenterol Res Pract; 2013).

This forum presents an opportunity for views about Barrett's to be discussed by Western and Asian physicians.