Editorials

Emerging Roles for Family Physicians in Diagnosing and Treating Barrett Esophagus

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A related article on this topic is available with the online version of this editorial.

Gastroesophageal reflux disease (GERD) is a common condition in the United States, and family physicians may diagnose and treat 40 to 60 patients with this condition each month.[1] Barrett esophagus (BE), defined as the metaplasia of squamous cells to columnar cells, potentially affects up to 6 million people in the United States with chronic GERD, and can progress to esophageal adenocarcinoma at an annual rate of 0.12% to 0.24% in BE without dysplasia.[2,3] Esophageal adenocarcinoma is increasing in incidence, with more than 12,000 new cases diagnosed annually, and it is the 17th most common cause of cancer death in the United States.[4] As discussed in this issue of *American Family Physician*, because it is rare for BE to transform into esophageal adenocarcinoma and most patients with esophageal adenocarcinoma lack symptoms of GERD, screening endoscopy is not recommended for all patients with GERD.[5] However, esophageal adenocarcinoma is often diagnosed in advanced stages, with a five-year survival rate of 16%[6]; therefore, it is important to identify patients at high risk and make screening accessible for them.[7,8]

Patients at high risk for developing BE or esophageal adenocarcinoma include men with five years or more of weekly GERD symptoms and two or more additional factors, including age older than 50 years; White race; central obesity; current or past smoker; and a family history of BE or esophageal adenocarcinoma.[7] Observational data support encouraging weight loss and smoking cessation for primary prevention.[6] In patients with BE, proton pump inhibitors (PPIs) decrease progression to the combined outcome of esophageal adenocarcinoma and high-grade dysplasia (number needed to treat [NNT] = 2.7).[9] A high-quality randomized controlled trial (RCT) found that in patients with BE of 1 cm or greater, high-dose PPIs significantly delayed the time to reach development of esophageal adenocarcinoma, high-grade dysplasia, or death, with the most benefit found with the combination of high-dose PPIs (NNT = 34) and aspirin (NNT = 43).[10] All PPIs are similarly effective, and prescribers should use whichever is most accessible for the patient. However, due to adverse effects, it is not recommended to prescribe aspirin unless other indications (e.g., secondary prevention of coronary artery disease) exist.

Despite the lack of RCTs, endoscopy is the most commonly used procedure for screening and surveillance of BE. Risks of endoscopy include perforation (0.0009% to 0.004%), bleeding (0.5%), and anesthesia reactions or cardiopulmonary events (0.06%).[11] However, potential screening alternatives are emerging that can be conducted in primary care settings.

The Cytosponge is a minimally invasive, lower-cost option that may facilitate outpatient screening. A gelatin encapsulated mesh is swallowed and, once dissolved, can detect intestinal metaplasia via the biomarker *Trefoil factor 3* (*TFF3*).[12] A multicenter RCT conducted in primary care practices in England compared continued acid suppression and endoscopy for patients with GERD if recommended by the clinician (usual care) vs. office-based screening with the Cytosponge and endoscopy if *TFF3* cells were present. Patients were older than 50 years, on acid suppression therapy for more than six months, and had no history of endoscopy in the previous five years. They found that Cytosponge screening improved the detection of BE (2%) compared with usual care (less than 1%).[13]

A recent retrospective, multicenter cross-sectional study of adults undergoing surveillance of BE with the Cytosponge and a decision tree allowed patients to be stratified as low, moderate, and high risk based on clinical risk factors and the presence of an abnormality detected by the Cytosponge. The designations allowed clinicians to predict the risk of BE-related neoplasia and

proceed to endoscopy; patients at high-risk were found to have a positive predictive value of 31% for high-grade dysplasia or intramucosal cancer.[14]

Esophageal capsule endoscopy allows visualization of the esophagus with a wireless camera without the use of sedation. A meta-analysis of nine studies found that the pooled sensitivity and specificity for diagnosing BE were 78% and 90%, respectively, when esophagogastroduodenoscopy was used as the reference standard.[15] However, there are limited large-scale trials of esophageal capsule endoscopy, and the procedure is not cost saving compared with esophagogastroduodenoscopy.

A retrospective chart review evaluated transnasal endoscopy in the primary care setting and found it feasible and well tolerated.[16] Similarly, a blinded RCT showed a BE detection rate of 30% in the unsedated approach vs. 26% in traditional esophagogastroduodenoscopy with patients undergoing both procedures; the level of agreement between the two approaches was moderate because they both detected the same case of low-grade dysplasia in one patient.[17] However, it has yet to gain widespread acceptance, perhaps because of a small field of visibility during the procedure, a lack of accompanying accessory tools for biopsy and evaluation, and patient anxiety.

Family physicians frequently treat patients with GERD, and our ability to identify those at high risk of BE and esophageal adenocarcinoma and appropriately screen for and manage BE has the potential to decrease morbidity and mortality. Newer office-based modalities could increase the accessibility of screening and appropriate care in family medicine.

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