Communication from the ASGE Standards of Practice Committee

GUIDELINE

The role of endoscopy in the evaluation and management of dysphagia

This is one of a series of statements discussing the use of GI endoscopy in common clinical situations. The Standards of Practice Committee of the American Society for Gastrointestinal Endoscopy (ASGE) prepared this update of a previous ASGE guideline.[1] In preparing this guideline, a search of the medical literature was performed by using PubMed for the period 1990-2013. Additional references were obtained from the bibliographies of the identified articles and from recommendations of expert consultants. When few or no data exist from well-designed prospective trials, emphasis is given to results from large series and reports from recognized experts. Guidelines for appropriate use of endoscopy are based on a critical review of the available data and expert consensus at the time that the guidelines are drafted. Further controlled clinical studies may be needed to clarify aspects of this guideline. This guideline may be revised as necessary to account for changes in technology, new data, or other aspects of clinical practice. The recommendations are based on reviewed studies and are graded on the strength of the supporting evidence (Table 1).[2] The strength of individual recommendations is based on both the aggregate evidence quality and an assessment of the anticipated benefits and harms. Weaker recommendations are indicated by phrases such as "We suggest…" whereas stronger recommendations are typically stated as "We recommend…"

This guideline is intended to be an educational device to provide information that may assist endoscopists in providing care to patients. This guideline is not a rule and should not be construed as establishing a legal standard of care or as encouraging, advocating, requiring, or discouraging any particular treatment. Clinical decisions in any particular case involve a complex analysis of the patient's condition and available courses of action. Therefore, clinical considerations may lead an endoscopist to take a course of action that varies from these guidelines.

ETIOLOGIES OF ESOPHAGEAL DYSPHAGIA

Dysphagia may result from structural or neuromuscular disorders of the esophagus. Patients with structural disorders of the esophagus typically have dysphagia with solids alone, in contrast to patients with motility disorders who present with both liquid and solid food dysphagia.[3] Structural disorders include inflammatory and malignant conditions. Benign inflammatory strictures result from collagen and fibrous tissue deposition in patients with severe or chronic inflammation in the esophagus,[4] whereas malignant strictures result from intrinsic luminal tumor growth or extrinsic esophageal compression.

The most common causes of esophageal dysphagia are listed in Table 2. Peptic strictures, a sequela of GERD, have been reported to account for up to 80% of all benign esophageal strictures.[5] However, their incidence appears to have decreased in the last decade because of the widespread use of proton pump inhibitors. With the reported increase in its prevalence, eosinophilic esophagitis (EoE) is now recognized as a common benign cause of dysphagia.[6] Motility disorders that cause dysphagia include achalasia, diffuse esophageal spasm, and hypomotility secondary to scleroderma and other connective tissue disorders.

THE ROLE OF ENDOSCOPY IN THE EVALUATION OF DYSPHAGIA

Endoscopy is indicated in patients with dysphagia to determine the underlying etiology, exclude malignant and premalignant conditions, assess the need for therapy, and perform therapy, such as dilation. Esophageal dilation is a therapeutic procedure performed for the management of dysphagia. The primary indication for dilation is to provide immediate and durable symptomatic relief of dysphagia. Most of the data on esophageal dilation is compiled from the adult population, but its safety and efficacy also have been confirmed in the pediatric population.[7,8] In contrast to mechanical stenoses, motility disorders may not respond to dilation, with achalasia being the notable exception.

EGD is an effective tool for the diagnostic evaluation and management of patients with dysphagia. One study reported a diagnostic yield of 54% with EGD in the initial evaluation of patients aged >40 years, who presented with dysphagia and concomitant heartburn, odynophagia, and weight loss.[9] A cost analysis also showed that EGD with therapeutic intent is more cost effective than an initial diagnostic approach with barium swallow in patients with histories suggestive of benign esophageal obstruction.[10]

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TABLE 1. GRADE system for rating the quality of evidence for guidelines[7]

Quality of evidence	Definition	Symbol
High quality	Further research is very unlikely to change our confidence in the estimate of effect.	⊕⊕⊕⊕
Moderate quality	Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.	⊕⊕⊕◯
Low quality	Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.	⊕⊕◯◯
Very low quality	Any estimate of effect is very uncertain.	⊕◯◯◯

During endoscopic evaluation of an esophageal stricture, biopsy specimens should be obtained when a malignancy is suspected on the basis of clinical presentation or endoscopic findings. Biopsies should be obtained from the proximal and distal esophagus to evaluate for EoE in patients with dysphagia and endoscopic findings suggestive of the disorder as well as in the absence of typical endoscopic findings of EoE in patients without esophageal mechanical obstruction.[11,12] Mucosal biopsies performed in conjunction with dilation do not appear to confer any additional risk for perforation.[13] Retroflexion of the endoscope before dilation, when possible, to evaluate for malignancy or varices in the gastric cardia, is another important part of the examination and is considered to be one of the quality indicators for EGD.[14]

Adults are usually able to tolerate a modified diet at an esophageal luminal diameter of 15 mm and a regular diet at an esophageal luminal diameter of 18 mm.[15,16] An esophageal luminal diameter of $\leq$13 mm results in dysphagia. Esophageal strictures can be classified as simple or complex, based on their diameter and associated anatomic abnormalities. A simple stricture is defined as a short stricture with a symmetric or concentric lumen and a diameter of $\geq$12 mm that can be traversed easily with an endoscope. A complex stricture is usually longer than 2 cm, may be angulated or irregular, and has a diameter of $<$12 mm. It may be associated with a large hiatal hernia, esophageal diverticula, or tracheoesophageal fistula.[3] Complex strictures have a higher rate of recurrence and an increased risk for dilation-related adverse events, compared with simple strictures.[17,18] The severity of a stricture can be estimated by the resistance encountered with passage of the diagnostic endoscope, which has a typical external diameter of 9 mm. A mild stricture allows passage of the endoscope without resistance, a moderate stricture offers increased resistance, whereas a severe stricture may not be traversable.[19] However, this estimation is limited by the subjective perception of the endoscopist. The diameter of a stricture can be objectively measured on barium radiography or by determining the maximal sized barium tablet that can pass through the lumen.[16]

Although some endoscopists have advocated the role of large-bore (50F) dilators in patients with dysphagia and normal endoscopic findings,[20] several studies have failed to demonstrate improvement in dysphagia scores with this approach.[21-23] The risk of perforation with large-bore dilators may outweigh the benefits, especially in patients with undiagnosed EoE.[11,24]

Patients with dysphagia caused by esophageal cancer or extrinsic compression present a challenge to the endoscopist. Most malignant strictures respond to dilation, but symptomatic relief may be only short term, and additional treatment with stent placement may be necessary in these patients.[25,26] Dysphagia caused by extrinsic compression of the esophagus responds poorly to esophageal dilation.[27] In patients with malignant strictures, dilation facilitates feeding gastrostomy tube placement, palliative management with esophageal stenting, and completion of the endoscopic examination, including staging with EUS.[28-30]

Types of dilators

Esophageal dilators include the weighted push type (Maloney; Medovations, Milwaukee, Wis; Teleflex Medical, Research Triangle Park, NC), polyvinyl wire–guided dilators (Savary-Gilliard; Cook Medical, Winston-Salem, NC, and American ConMed, Utica, NY), and balloon dilators (wire-guided and through-the-scope [TTS]).[31]

Bougie dilators rely on tactile perception to determine the amount of resistance encountered with passage through the esophagus. Maloney dilators range in size from 16F to 60F. They can be passed into the esophagus blindly or under fluoroscopic guidance. Maloney dilators can be used without sedation and may be used for self-dilation by select patients.[18] These dilators should not be used for narrow, complex strictures because of the possibility that they could buckle above the stricture and result in perforation. Polyvinyl dilators (Savary-Gilliard and American) have a more tapered and rigid tip than Maloney dilators and a central hollow core for passage of a guidewire. They also range in size from 16F to 60F. The Savary-Gilliard dilators are marked with a radiopaque band at the level of their maximal