

Ten Questions About Barium Esophagography and Dysphagia

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KEYWORDS

- Barium esophagram • Modified esophagram • Technique of examination
- Dysphagia • Odynophagia

KEY POINTS

- The barium esophagram is a global test for patients with dysphagia that can simultaneously detect morphologic abnormalities in the pharynx and esophagus, pharyngeal swallowing dysfunction, esophageal dysmotility, and gastroesophageal reflux.
- The barium esophagram is an inexpensive, noninvasive, and widely available procedure that can serve as the initial diagnostic test for dysphagia and facilitate selection of other diagnostic studies such as endoscopy.
- This article addresses 10 questions about barium esophagography and dysphagia that should help gastroenterologists gain a better perspective about the utility of barium studies in this clinical setting.

INTRODUCTION

Patients with dysphagia may undergo a variety of diagnostic tests to determine the cause of this symptom, including an ear, nose, and throat examination for pharyngeal abnormalities, endoscopy for esophageal abnormalities, high-resolution manometry for esophageal motility disorders, and 24-hour pH esophageal monitoring for gastroesophageal reflux (GER). In contrast, the barium esophagram is a global test that can simultaneously demonstrate morphologic abnormalities in the pharynx and esophagus, pharyngeal swallowing disorders, esophageal dysmotility, and GER.¹ It also is an inexpensive, noninvasive, and widely available procedure that can facilitate selection of other diagnostic studies, such as endoscopy. The esophagram therefore is a cost-effective examination that can serve as the initial diagnostic test for guiding the evaluation and management of patients with dysphagia.

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This article briefly describes the technique for performing a biphasic esophagram and addresses 10 questions about barium esophagography and dysphagia. The answers to these questions should help gastroenterologists gain a better perspective about the utility of barium studies in the clinical setting of dysphagia.

TECHNIQUE OF EXAMINATION

Barium esophagography usually is performed as a biphasic study that includes both upright double-contrast views and prone single-contrast views of the esophagus.² After ingesting an effervescence agent, the patient swallows high-density barium in the upright, left posterior oblique position for double-contrast images of the esophagus. It is important for the patient to swallow barium continuously (although not necessarily rapidly), because repetitive swallowing inhibits peristalsis, so double-contrast images of the esophagus can be obtained while it is adequately distended. The patient is then placed in a recumbent, right-side-down position for a double-contrast image of the gastric cardia, which usually is manifested by 3 or 4 stellate folds radiating to a central point at the gastroesophageal junction, also known as the cardiac rosette (**Fig. 1**).³

The patient next takes discrete swallows of thin barium in a prone, right anterior oblique position to evaluate esophageal motility and then continuously swallows thin barium in this position to optimally distend the esophagus and rule out rings, strictures, or other causes of narrowing. The single- and double-contrast phases of the esophagram therefore are complementary, because double-contrast views enable detection of mucosal abnormalities not visible on single-contrast views, whereas single-contrast views enable detection of areas of narrowing not visible on double-contrast views.

TEN QUESTIONS ABOUT BARIUM ESOPHAGOGRAPHY AND DYSPHAGIA

Question 1: How Long Has the Patient Had Dysphagia?

The duration of dysphagia is the single most important clinical parameter for differentiating benign and malignant causes of dysphagia. Benign conditions involving the esophagus evolve slowly over a period of months to years, so these patients usually present with slowly progressive, long-standing (6–12 months or longer) dysphagia

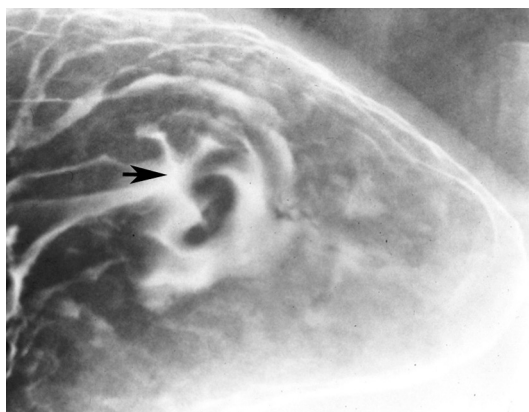


Fig. 1. Normal appearance of gastric cardia. On a right-side-down double-contrast spot image of the gastric fundus, the cardia is characterized by stellate folds radiating to a central point at the gastroesophageal junction (*arrow*), known as the cardiac rosette.

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