

AMSER Case of the Month

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66 y/o Male with difficulty swallowing

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Patient Presentation: Subjective

- 66 y/o male 66-year-old male smoker referred by PCP for difficulty swallowing solids. Reports food gets “stuck” and has to “bring it up again”. Patient denies trouble swallowing liquids or soft foods. Patient denies heartburn.
- ROS: Negative for odynophagia, regurgitation/heartburn, good appetite, stable weight.
- PMHx: Alcohol and tobacco use disorder, aneurysm of infrarenal aorta, hypertension, gout, hyperlipidemia.
- PSHx: Partial distal gastrectomy with gastroduodenostomy.

Patient Presentation: Objective (At time of visit)

- Vitals: BP 145/99, Pulse 69, Temperature 98F, BMI 21, SpO2 97%.
- Physical exam: Cooperative, in no acute distress, oriented, regular respiratory effort, extremities warm, no clubbing or edema.
- Medications: amlodipine 10mg by mouth daily, allopurinol 10mg by mouth daily, thiamine 100mg TID.
- Labs: Hb 15.8, WBC 7.70, hematocrit 47.5, Platelet 186.

What Imaging Should We Order?

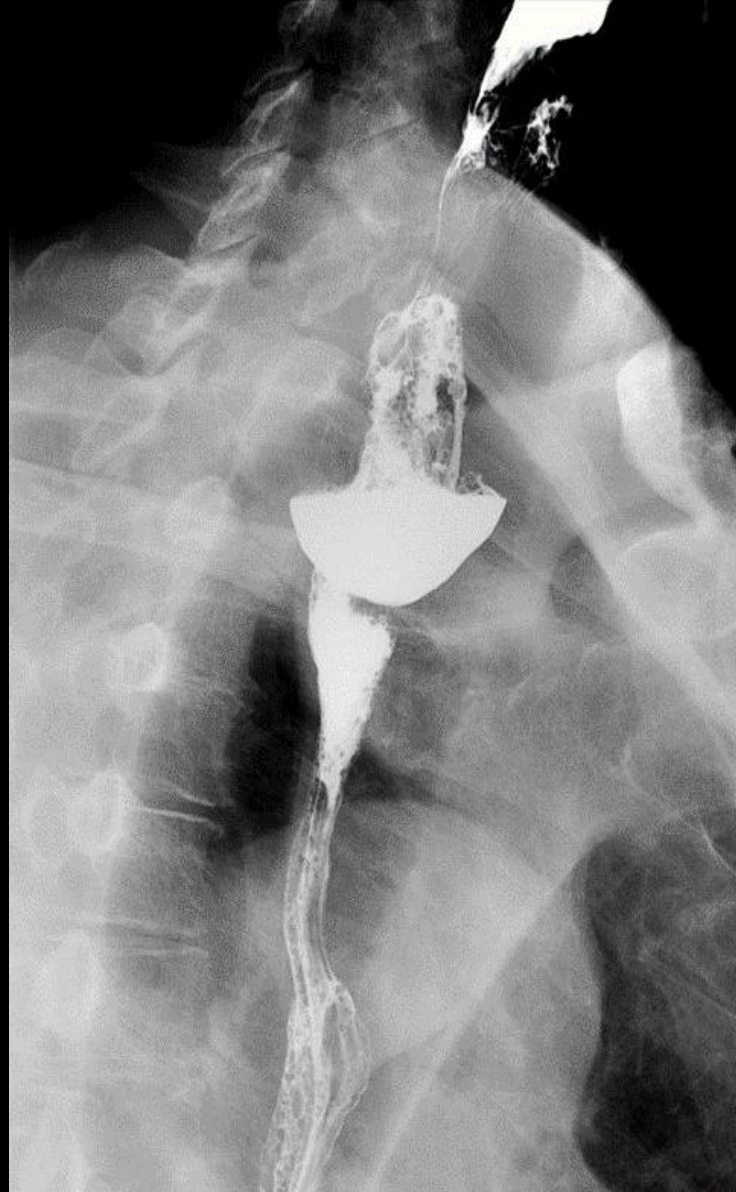
Select the applicable ACR Appropriateness Criteria

Variant 2: Unexplained oropharyngeal dysphagia. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
Fluoroscopy biphasic esophagram	Usually Appropriate	☼☼☼
Fluoroscopy barium swallow modified	May Be Appropriate	☼☼☼
Fluoroscopy single contrast esophagram	May Be Appropriate	☼☼☼
Fluoroscopy pharynx dynamic and static imaging	May Be Appropriate (Disagreement)	☼☼☼
Esophageal transit nuclear medicine scan	May Be Appropriate	☼☼☼
CT neck and chest without IV contrast	Usually Not Appropriate	☼☼☼☼
CT neck and chest with IV contrast	Usually Not Appropriate	☼☼☼☼
CT neck and chest without and with IV contrast	Usually Not Appropriate	☼☼☼☼

This imaging modality was ordered by the GI physician.

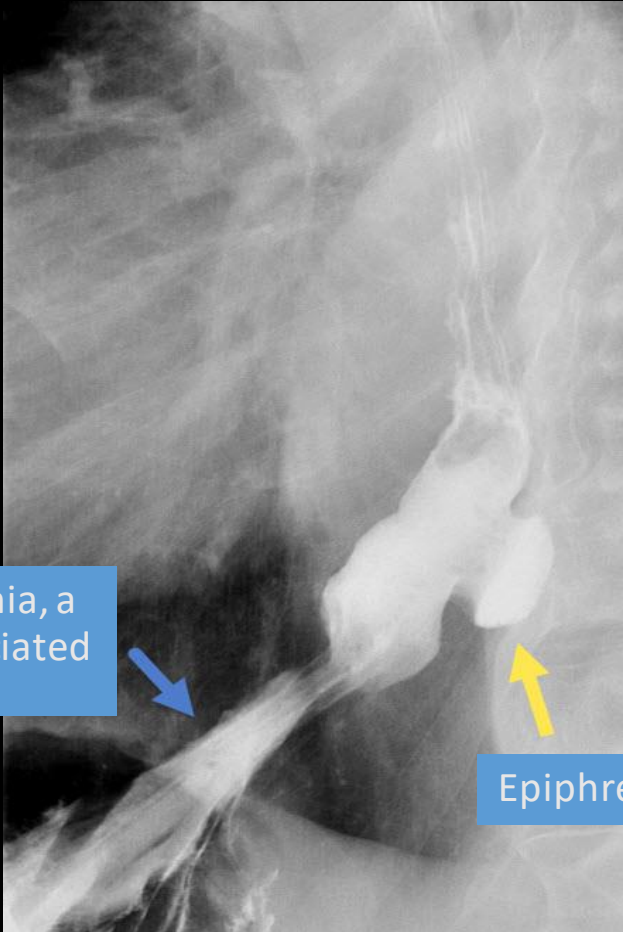
Findings (unlabeled)



Findings (unlabeled)



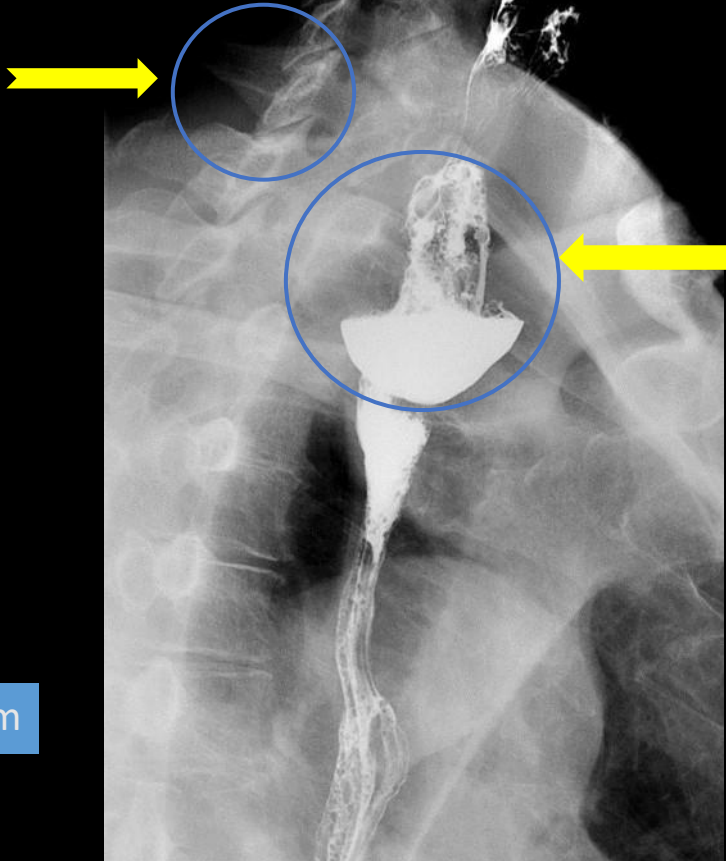
Findings: (labeled)



Small hiatal hernia, a commonly associated finding.

Epiphrenic diverticulum

C5-C6 level



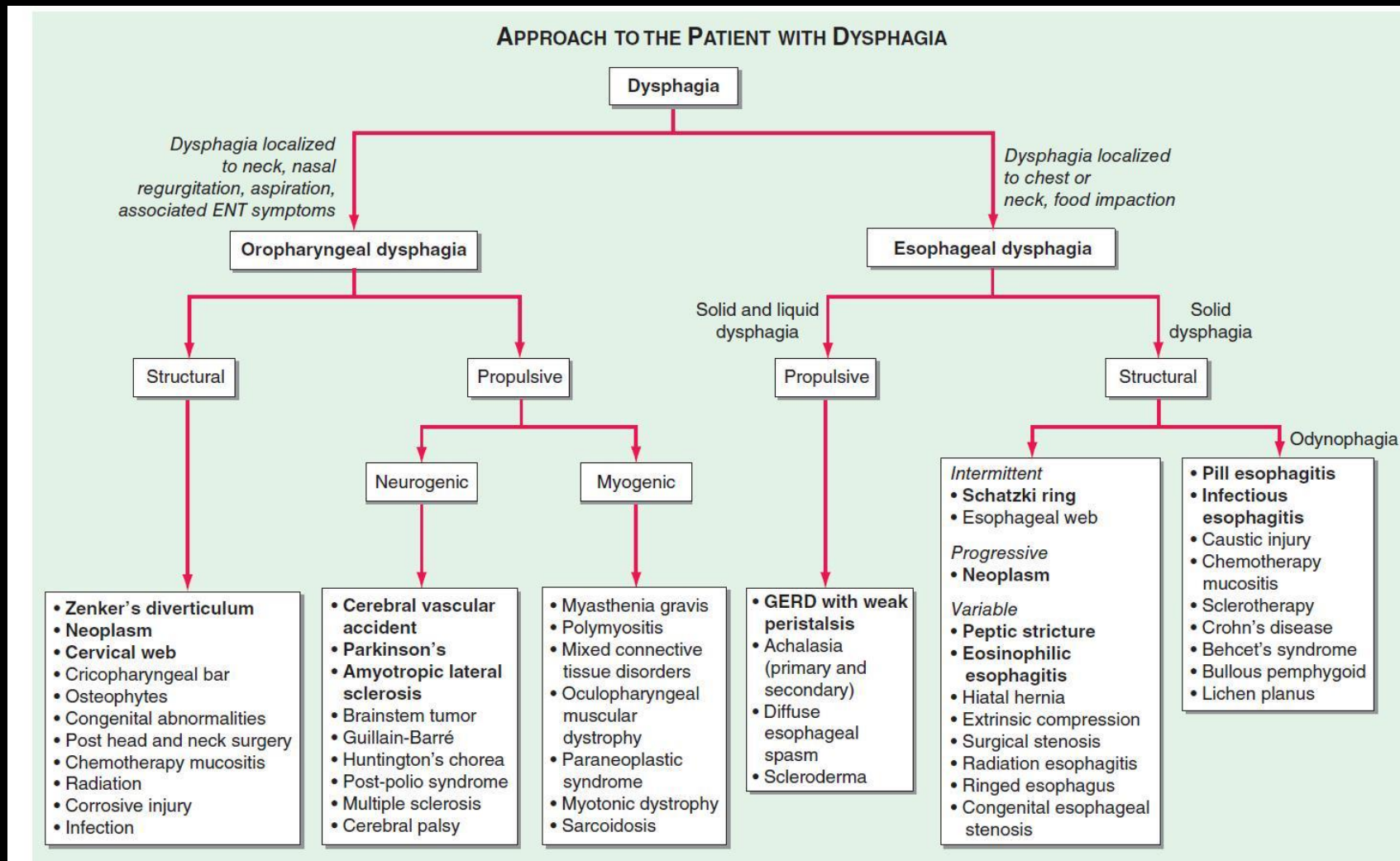
Retained residual contrast within a pouch arising from the posterior wall of the esophagus.

Final Dx:

Superior: Zenker's Diverticulum

Inferior: Epiphrenic Diverticulum and Small Hiatal
Hernia

Dysphagia

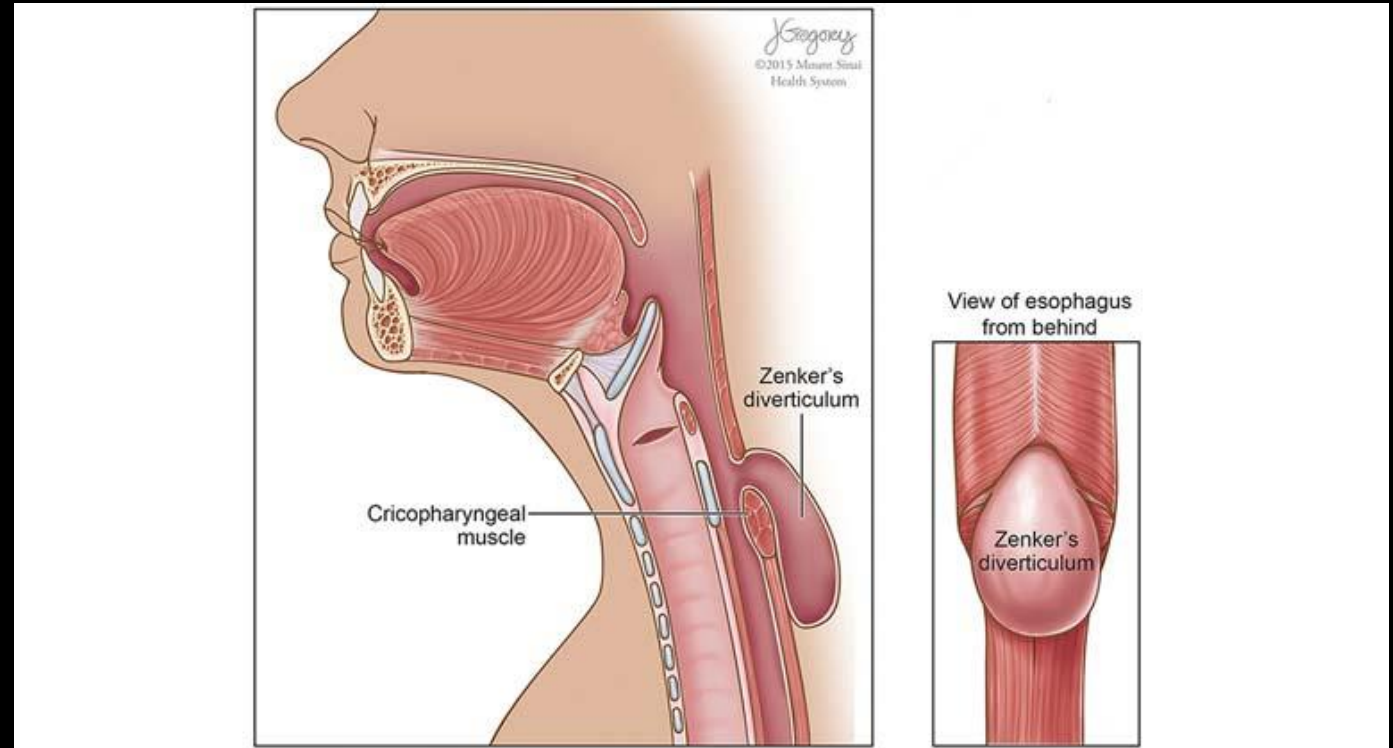


Approach to the patient with dysphagia. Etiologies in bold print are the most common. ENT, ear, nose, and throat; GERD, gastroesophageal reflux disease.

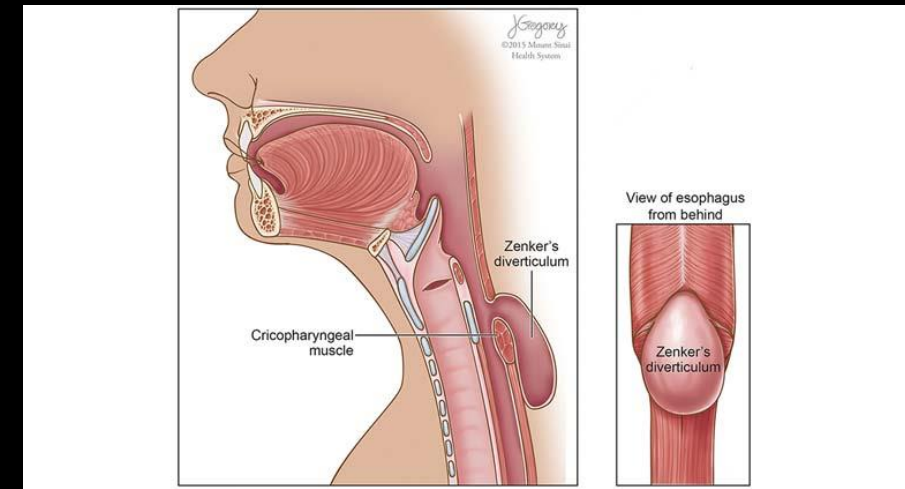
Source : Harrison's Principles of Internal Medicine (19th Ed)

Zenker's Diverticulum

- Diverticulum developing in the hypopharynx.
 - Proximal to the upper esophageal sphincter.
 - Killian Dehiscence – area of weakness in the posterior muscular wall of the pharynx near the spinal level of C5-C6.
- More than half of affected patients between 60-80 years of age.
 - Rare before the age of 40.
- Additional typical presenting signs and symptoms:
 - Globus sensation, halitosis, regurgitation, chronic cough, aspiration, infection.



Traction versus Pulsion Diverticula



- Pulsion diverticula mechanism is secondary to increased intraluminal pressure (e.g., Zenker's Diverticulum).
 - Includes only the mucosa and submucosa layers of the esophageal wall outpouching through the muscular layer (false diverticula).
- Traction diverticula mechanism is secondary to pulling forces on the esophageal wall (e.g., pulmonary fibrosis).
 - Includes all layers of the esophageal wall (true diverticula).

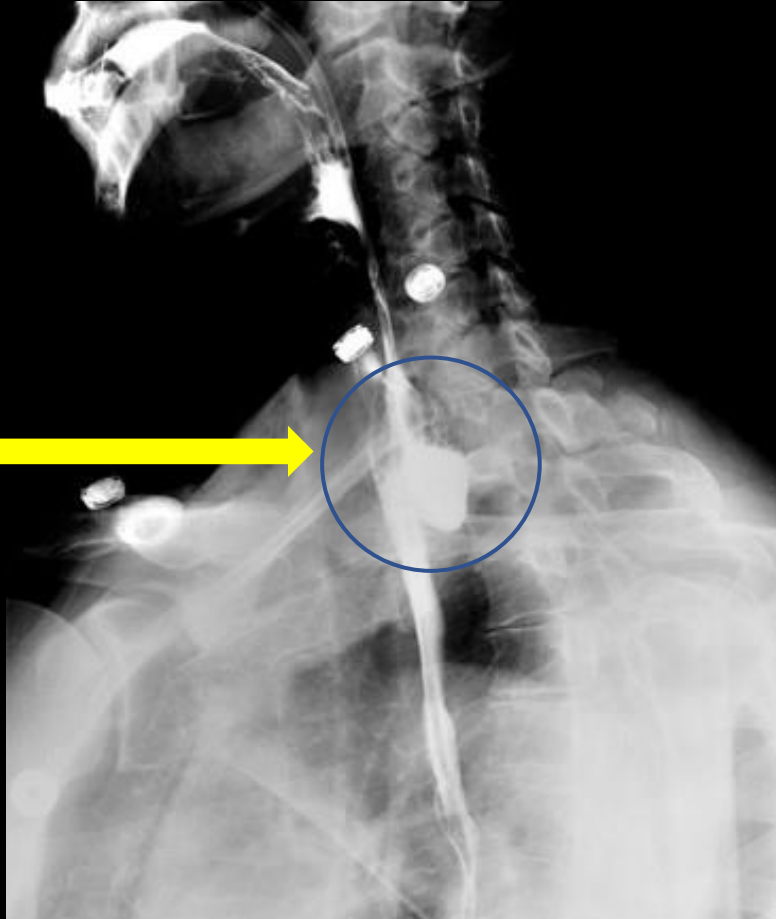
Image source: Mount Sinai Health Systems 2015

Biphasic vs. Single Contrast (in patients with unexplained dysphagia)

- Patients with unexplained dysphagia require a barium study that provides detailed resolution of esophageal structure, function, and mucosal architecture.
 - Study of choice: Fluoroscopic Biphasic Esophagogram - double contrast esophagogram (using air to distend the esophagus)
- Single Contrast Esophagogram is well suited to appreciate gross anatomy and is preferred in the postoperative setting for patients treated for Zenker's diverticulum.
 - Water soluble thin contrast used in this technique is a safe agent appropriate for the assessment of suspected postoperative leakage.

Treatment: Postoperative POEM (Peroral endoscopic myotomy)

Minimal post-operative retained residual contrast, an expected appearance.



- Open diverticulectomy is associated with lower incidence of recurrence or persistence of symptoms compared to endoscopic stapler and laser diverticulectomy techniques.
- Z-POEM is a novel endoscopic technique showing up to 100% clinical improvement.

References

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