

AMSER Case of the Month

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HPI: A 70-year-old female presenting with epigastric pain

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Patient Presentation

- **HPI:** 70-y.o. female presenting with diffuse intermittent abdominal pain that began 1 day prior, worsens after eating and improves on lying down.
- **PMH:** Type II diabetes mellitus, gastroesophageal reflux disease, hypertension, hyperlipidemia, H. pylori gastritis treated in 2019, lower midline incisional hernia with repair in 2020, left inguinal hernia and iron deficiency
- **Meds:** Glipizide 5mg daily, metformin 500mg daily, simvastatin 10mg daily, lisinopril 5mg daily, colace 100mg 100mg twice daily, tylenol 325mg
- **Allergies:** NKDA
- **Physical exam:** No acute distress. Well-healed midline surgical scar in lower abdomen. Soft nondistended abdomen. No guarding or rebound. Tenderness to palpation of lower abdomen, left lower quadrant. No obvious hernias present. Bowel sounds are normal.

Pertinent Labs

- RBC: $4.09 \times 10^6/\mu\text{L}$
- Hemoglobin: 8.7g/dL
- Hematocrit: 31.2%
- MCV: 76.3fL
- MCH: 21.33pg
- MCHC: 27.9g/dL
- RDW: 20.7%
- Glucose: 148mg/dL
- Sodium: 139mmol/L
- Potassium: 4.5mmol/L
- Chloride: 105mmol/L
- Magnesium 2.0mg/dL
- Phosphorus: 3.0mg/dL
- CO₂: 24mmol/L
- Calcium: 9.2mg/dL

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

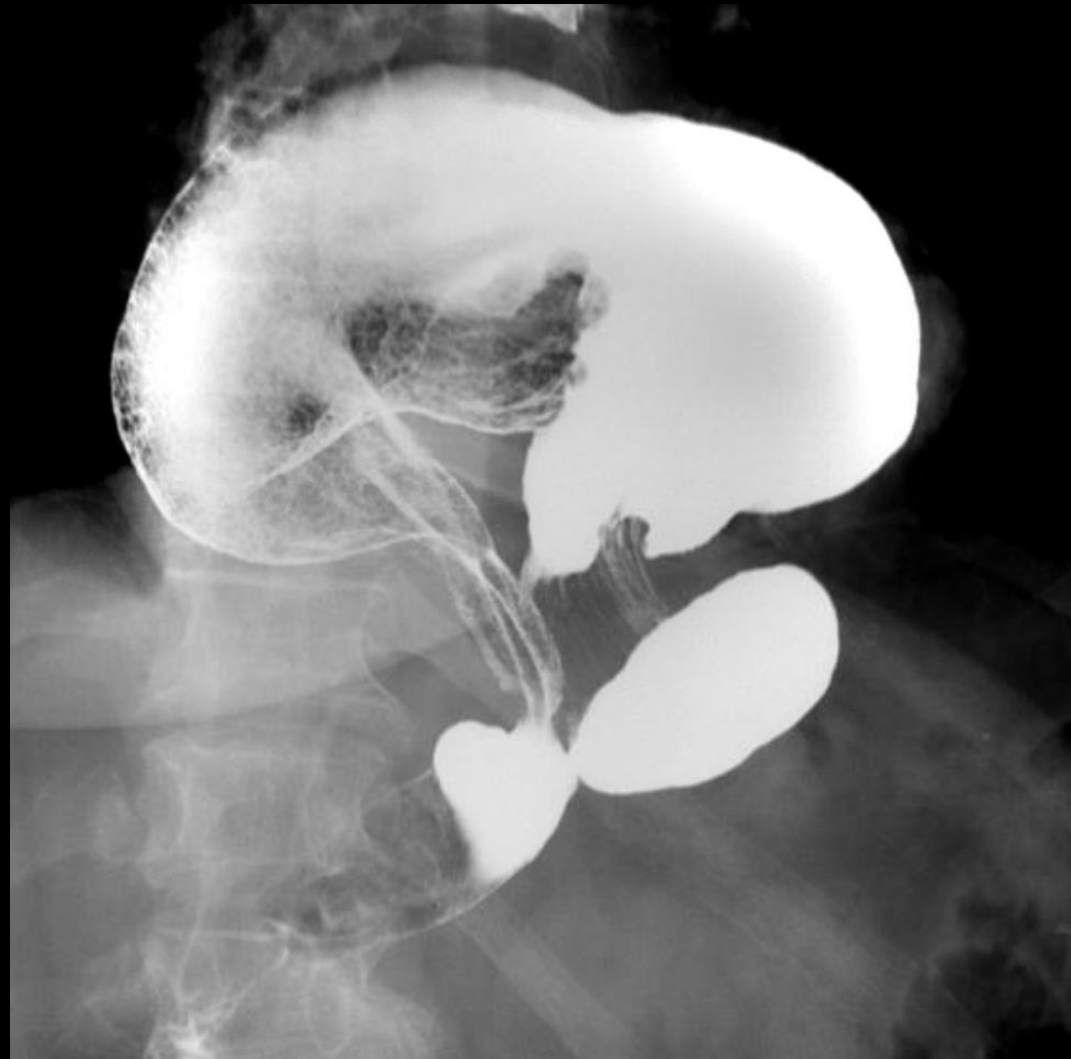
Variant 3: Epigastric pain with clinical suspicion for hiatal hernia. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
Fluoroscopy biphasic esophagram	Usually Appropriate	☼☼☼
Fluoroscopy single contrast esophagram	Usually Appropriate	☼☼☼
Fluoroscopy upper GI series	Usually Appropriate	☼☼☼
MRI abdomen without and with IV contrast	Usually Not Appropriate	○
MRI abdomen without and with IV contrast with MRCP	Usually Not Appropriate	○
MRI abdomen without IV contrast	Usually Not Appropriate	○
MRI abdomen without IV contrast with MRCP	Usually Not Appropriate	○
CT abdomen and pelvis with IV contrast	Usually Not Appropriate	☼☼☼
CT abdomen and pelvis without IV contrast	Usually Not Appropriate	☼☼☼
CT abdomen with IV contrast	Usually Not Appropriate	☼☼☼
CT abdomen without IV contrast	Usually Not Appropriate	☼☼☼
CT abdomen and pelvis without and with IV contrast	Usually Not Appropriate	☼☼☼☼
CT abdomen with IV contrast multiphase	Usually Not Appropriate	☼☼☼☼
CT abdomen without and with IV contrast	Usually Not Appropriate	☼☼☼☼
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	☼☼☼☼

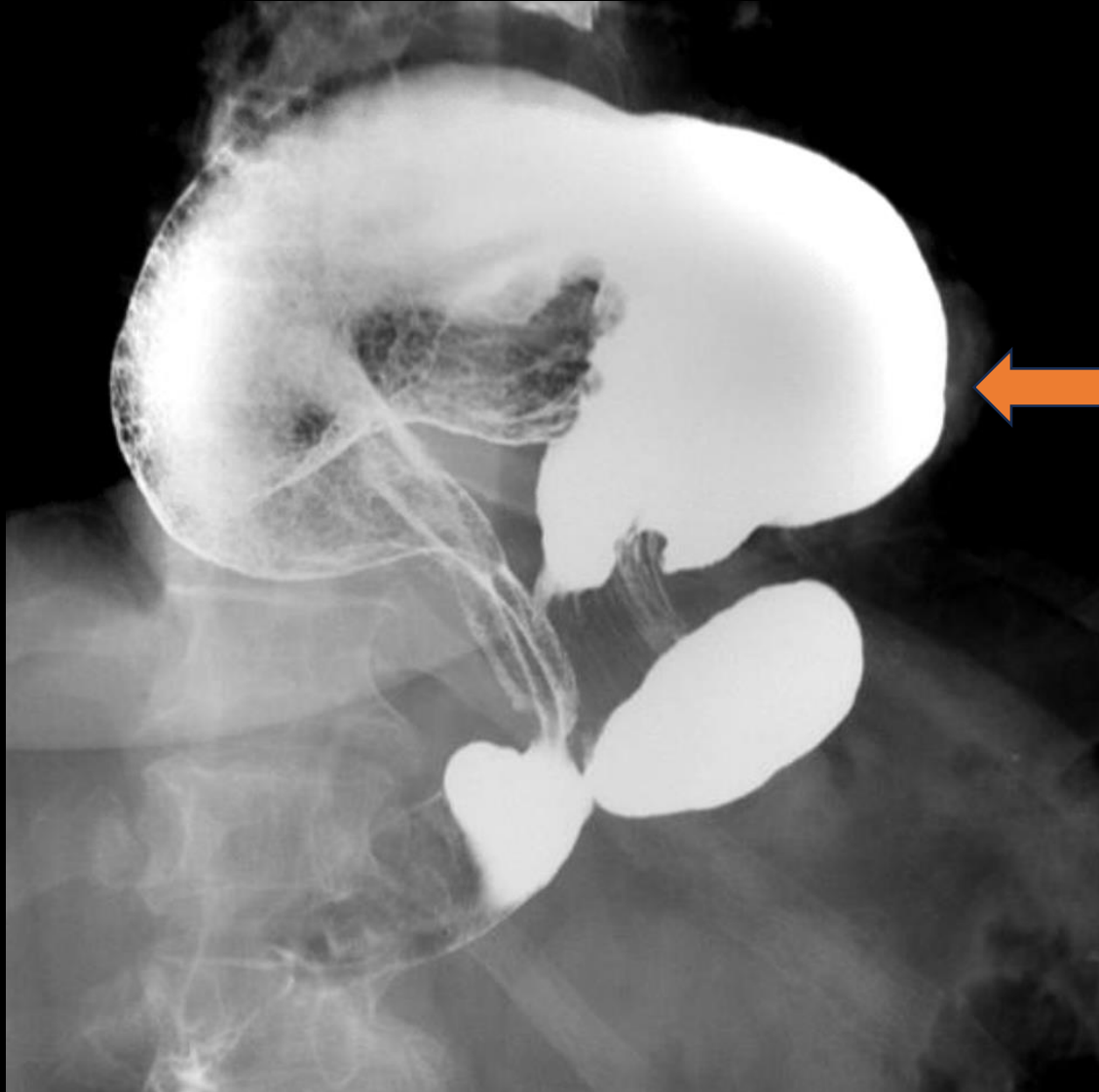
This imaging modality as ordered by the ER physician



Findings (unlabeled)

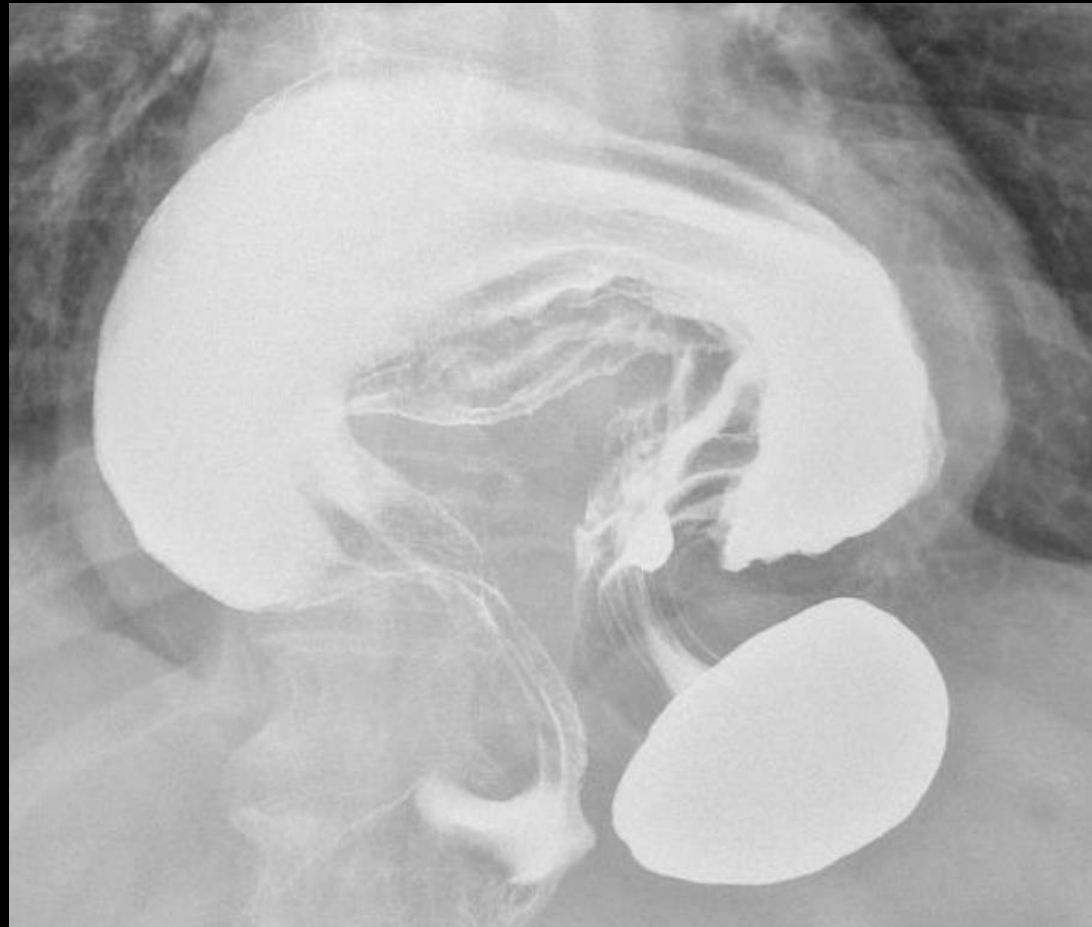


Findings: (labeled)

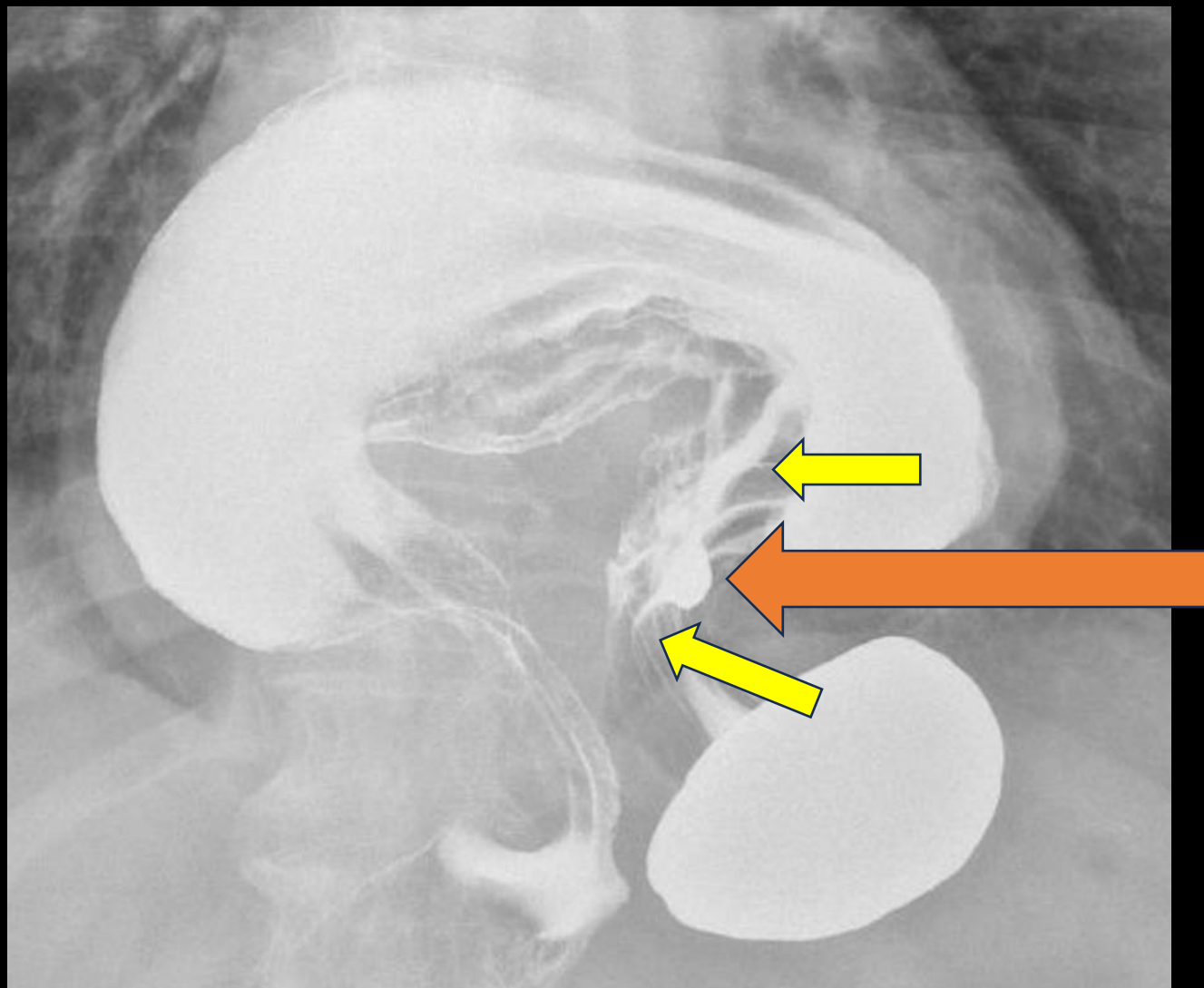


Large paraesophageal hernia containing almost the entirety of the stomach which demonstrates organo-axial rotation. The gastric fundus and antrum are below the diaphragm

Findings (unlabeled)



Findings: (labeled)



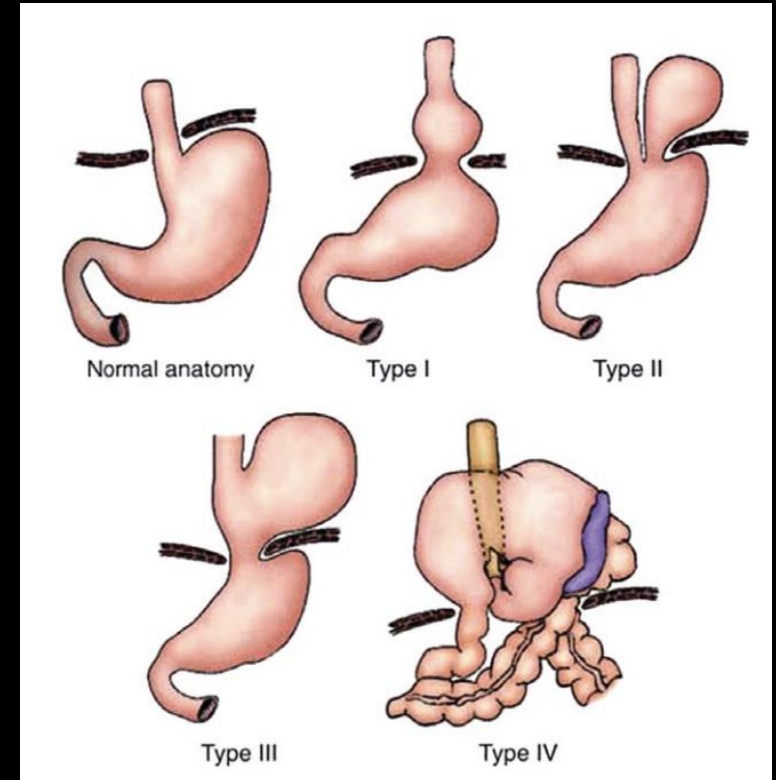
Pooling of contrast near the gastroesophageal junction in the gastric cardia (big arrow) with surrounding thick, irregular radiating folds (small arrows) reflecting edema.

Final Dx:

Paraesophageal hernia with Cameron erosion

Case Discussion

- Hiatal hernias present in ~50% of the population and are classified into 4 types
- Types II-IV are paraesophageal hernias, which comprise 5-15% of all hiatal hernias.
- Symptoms of these hernias are classified as obstructive vs nonobstructive
 - Nonobstructive symptoms: GERD, esophagitis or chronic anemia secondary to **Cameron's lesions**
 - Obstructive symptoms: dysphagia, regurgitation, epigastric pain, early satiety, postprandial fullness, chest pain, or dyspnea.



Case Discussion

- Cameron lesions
 - Linear erosions or ulcerations typically in the proximal stomach
 - Occur at the level of the hiatus, where the stomach is compressed
 - Seen in ~5% of patients with known hiatal hernia on EGD
- Multiple theories for the pathogenesis of Cameron lesions
 - Mechanical trauma secondary to rubbing of mucosal folds at the constriction level of the diaphragm → ex paraesophageal hernia
 - Focal ischemia due to diaphragmatic pressure on the herniated sac
 - Binge drinking
- These lesions can be a cause of chronic anemia due to occult bleeding

Case Discussion – Management

- There is some disagreement among practitioners on whether surgery or watchful waiting is the appropriate first step in management of paraesophageal hernias
- Current guidelines for management of hiatal hernias by the The Society of American Gastrointestinal and Endoscopic Surgeons (SAGES):
 - All symptomatic paraesophageal hernias should be repaired, particularly those with acute obstructive symptoms or which have undergone volvulus
 - Routine elective repair of completely asymptomatic paraesophageal hernias may not always be indicated. Consideration for surgery should include the patient's age and co-morbidities.
 - Hiatal hernias can effectively be repaired by a transabdominal or transthoracic approach, however laparoscopic hiatal hernia repair is as effective as open transabdominal repair
- *This patient was treated by robotic assisted da Vinci XI laparoscopic repair*

References:

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