



# A Rare Case of Erosive Gastritis and Melena Related to Gastric Mucosal Calcinosis

Patrick J. Carey, MD, Kyle Fischer, MD, Ahmed Al-Chalabi, MD

\* University of Kentucky, † Lexington VA Medical Center



VA HEALTH CARE Defining EXCELLENCE in the 21st Century

## LEARNING OBJECTIVES

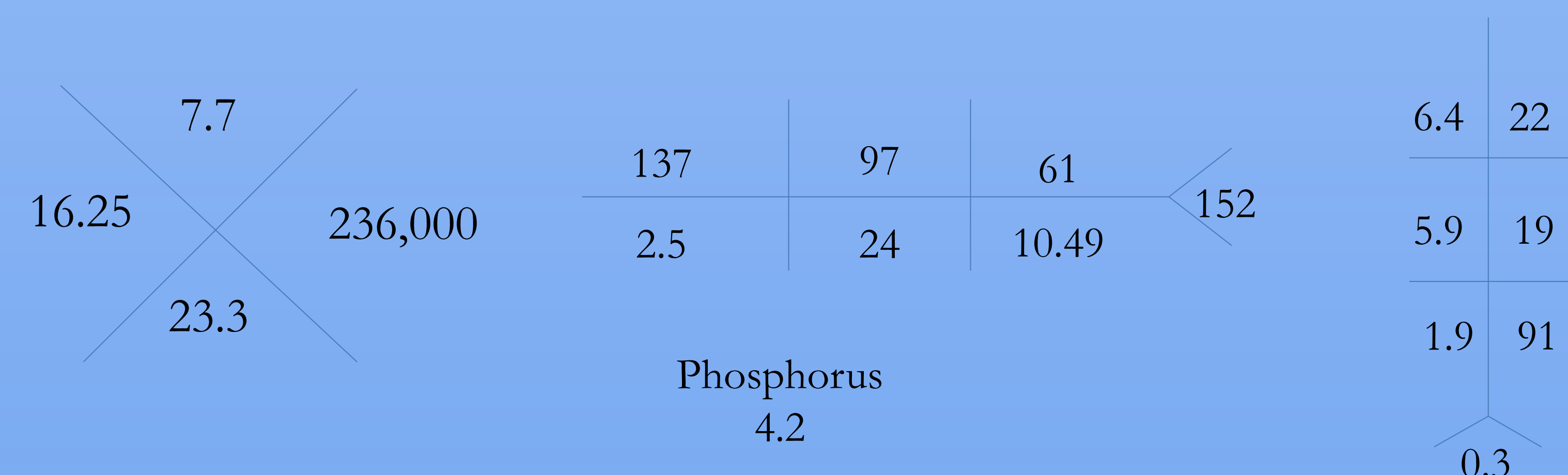
- Present a case of melena attributed to gastric mucosal calcinosis (GMC) secondary to end-stage renal disease (ESRD)
- Review the pathogenesis of GMC

## CASE PRESENTATION

A 74-year-old male with PMH of ESRD on peritoneal dialysis, atrial fibrillation, HFrEF, and hypothyroidism was admitted for generalized weakness, abdominal pain, and four days of melena. He had been hospitalized one week prior for peritonitis treated with vancomycin and ceftazidime. Review of systems was otherwise notable forodynophagia, but he denied dyspnea, chest pain, hematochezia, or hematemesis.

Physical exam was notable for heart rate 105, an irregularly irregular cardiac rhythm, mild abdominal distension, and moderate diffuse abdominal tenderness.

## EVALUATION



CT images showed mild wall thickening of the descending and sigmoid colon with mild mesenteric stranding which may represent colitis.

Stool *Clostridium difficile* PCR and toxin were positive.

## COURSE/RESULTS



Figure 1: Endoscopic appearance of gastric mucosal calcinosis demonstrating patchy areas of whitish mucosa

- The patient underwent EGD that demonstrated patchy areas of whitish mucosa (Figure 1) associated with moderate gastric erythema, edema, and erosions in addition to thickening of gastric folds. Other findings included a Schatzki ring in the lower third of the esophagus and a small type I hiatal hernia.
- Gastric biopsies revealed gastric mucosal calcinosis.
- He was started on fidaxomicin for *C. diff* colitis.
- He was continued on proton pump inhibitors with resolution of his melena.

## DISCUSSION

- Gastric calcinosis is classified as metastatic (most common), dystrophic, or idiopathic.
- Metastatic calcification is a result of abnormal serum calcium and phosphorus metabolism that causes calcium salt deposition in normal soft tissues.
- Dystrophic calcification involves calcification of inflamed, fibrotic, or otherwise altered tissue without abnormalities of calcium or phosphorus metabolism
- Gastric mucosa is predisposed to calcium salt deposition due to its relative intracellular alkalinity.
- GMC's endoscopic appearance is often described as 1-5mm white flat plaques in the fundus, body, or antrum.
- In ESRD, patients are at higher risk for metastatic calcification due to bone mineral disorders. GMC is estimated to occur in up to 13% of ESRD patients.
- In rare cases, GMC can cause ulcerations or necrosis of gastric tissue leading to acute upper GI bleeding.

## CONCLUSION

- Gastric metastatic calcinosis can be seen in patients with abnormal serum calcium and phosphorus metabolism
- ESRD patients are at increased risk of GMC
- GMC must be considered within the differential diagnosis in patients with ESRD who presents with melena

## REFERENCES

Kosuru V, Mohammed A, Kapoor R, Jhaveri K, Medepalli V, Mulloy L, Padala SA. Metastatic Calcinosis of Gastric Mucosa. *J Investig Med High Impact Case Rep.* 2020;8:2324709620940482.

Gorospe M, Fadare O. Gastric mucosal calcinosis: clinicopathologic considerations. *Adv Anat Pathol.* 2007;14:224-228.

Hsieh TH, McCullough A, Aqel B. Gastric mucosal calcinosis. *Gastrointest Endosc.* 2011;73:1282-1283.