



# Doxycycline-related gastric mucosal injury, a characteristic histopathologic pattern



Dongguang Wei<sup>1</sup>, Karen Matsukuma<sup>1</sup>

<sup>1</sup>Department of Pathology and Laboratory Medicine, University of California, Davis Medical Center, Sacramento, CA 95817

## **Introduction:**

Medication-induced upper gastrointestinal tract injury often presents with nonspecific symptoms and nonspecific histologic features. However, a small subset of medications demonstrate specific histologic features that enable pathologists to suggest a specific agent.

## **Case Features:**

A 68 year-old male with a past medical history of cerebrovascular accident and atrial fibrillation, on apixaban and aspirin, presented to the emergency department for melena. At endoscopy, a 2-cm area with adherent material (thought to be food residue) was noted in the proximal body of the stomach. The underlying mucosa, which appeared erythematous, was biopsied. The esophageal and duodenal mucosa was normal.

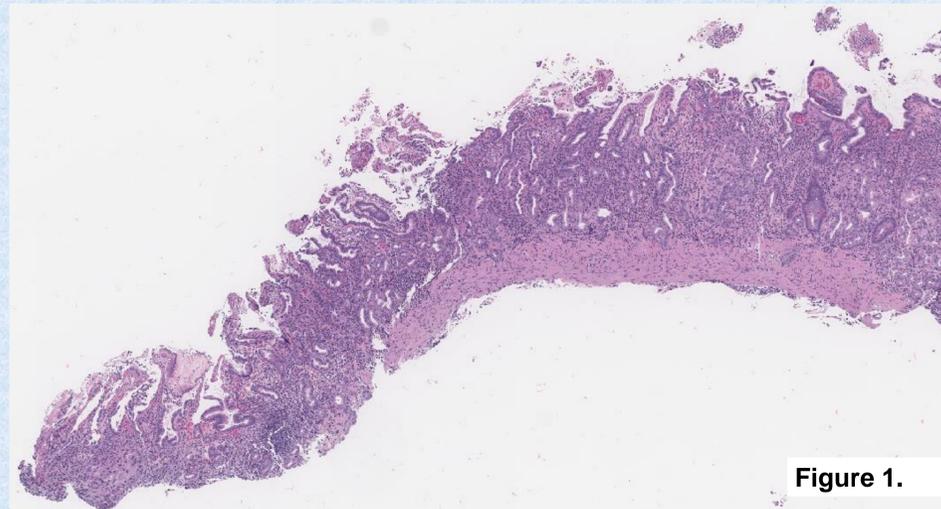


Figure 1.

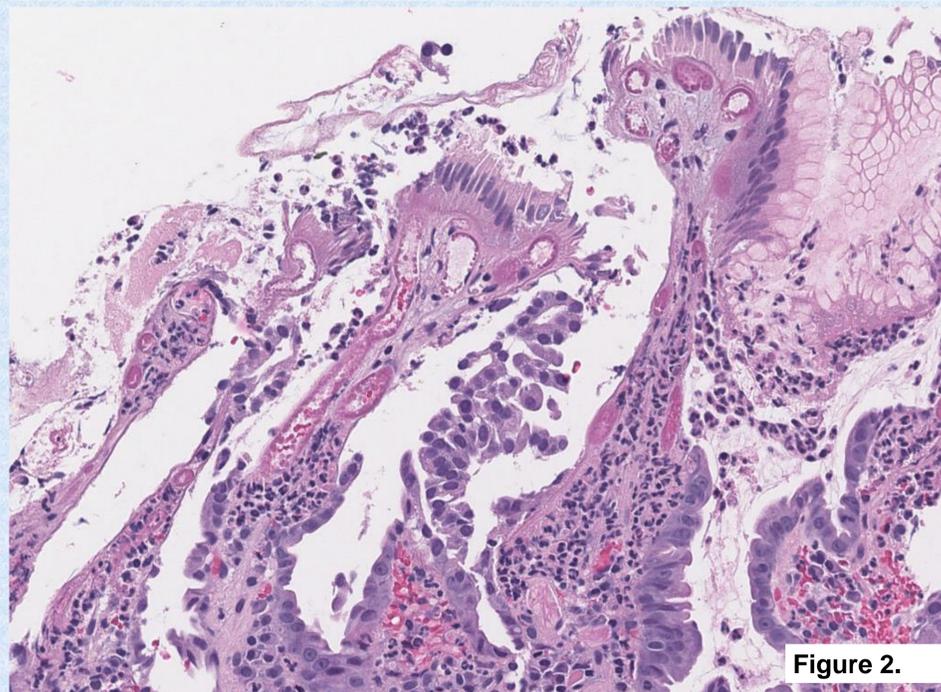


Figure 2.

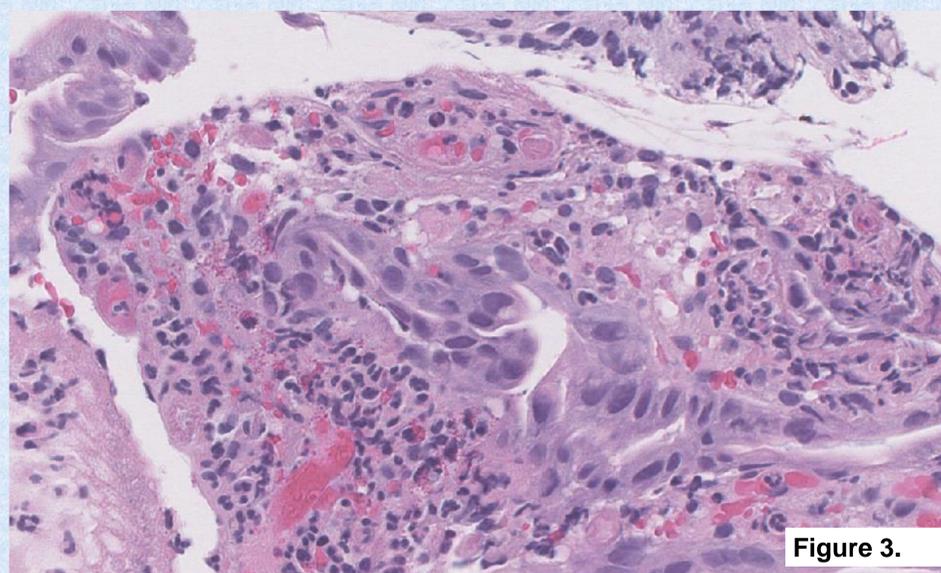


Figure 3.

## **Microscopic Findings:**

Mixed chemical and chronic gastritis (Figure 1) Within the area of erosion, eosinophilic necrosis of the superficial capillaries and a rare capillary microthrombus were identified (Figures 2, 3). No *Helicobacter* organisms were identified on *H. pylori* immunostain.

## **Interpretation:**

Upon review of the patient's medication list, recent administration of doxycycline was noted (prescribed in conjunction with metronidazole and bismuth for *Helicobacter* eradication).

## **Conclusion:**

Doxycycline-induced gastric mucosal injury is rare but when present is associated with a distinctive eosinophilic necrosis of superficial vessels and occasional microthrombi. Endoscopically, lesions are characterized by inflamed mucosa with overlying white to yellow plaques or ulcers. Recognition of this histologic pattern allows pathologists to suggest a specific etiology for the gastric injury, one which is reversible upon cessation of the medication.