

Background

- Oxaliplatin, a platinum containing alkylating agent is widely used in chemotherapeutic regimens for colorectal carcinoma.
- One of its side effects is injury to hepatic sinusoidal endothelium and the development of nodular regenerative hyperplasia (NRH)
- The injury is characterized by a diffuse micronodular transformation without a fibrous band and the lack of perinuclear collagen tissue.
- It can lead to non-cirrhotic portal hypertension with splenomegaly and bleeding.

Case Presentation

- A 46-year-old female presented to the emergency room (ER) with one episode of coffee-ground vomiting and three episodes of black tarry stools.
- She denied any abdominal pain, diarrhea, the use of anti-inflammatory and anti-coagulant medications, and denied a past medical history GI bleeding or jaundice.
- She was diagnosed with colon carcinoma six years ago and received FOLFOX chemotherapy with Oxaliplatin and has been in remission since the treatment.

Vitals & Physical Examination

Blood Pressure	116/82 mm Hg.
Pulse	78/minute

- Initial presentation:
- General: alert and pale, no jaundice or stigmata of liver disease
- Abdominal Exam: Mild splenomegaly, tympanic on percussion, soft, non-tender

Laboratory Investigations

WBC	14.4 10 ³ /uL(4.5-11 K/uL)
Hemoglobin	9.5 g/dL (12-16 g/dL)
PT/INR	14.9 sec /1.30
AST/ALT	26/38

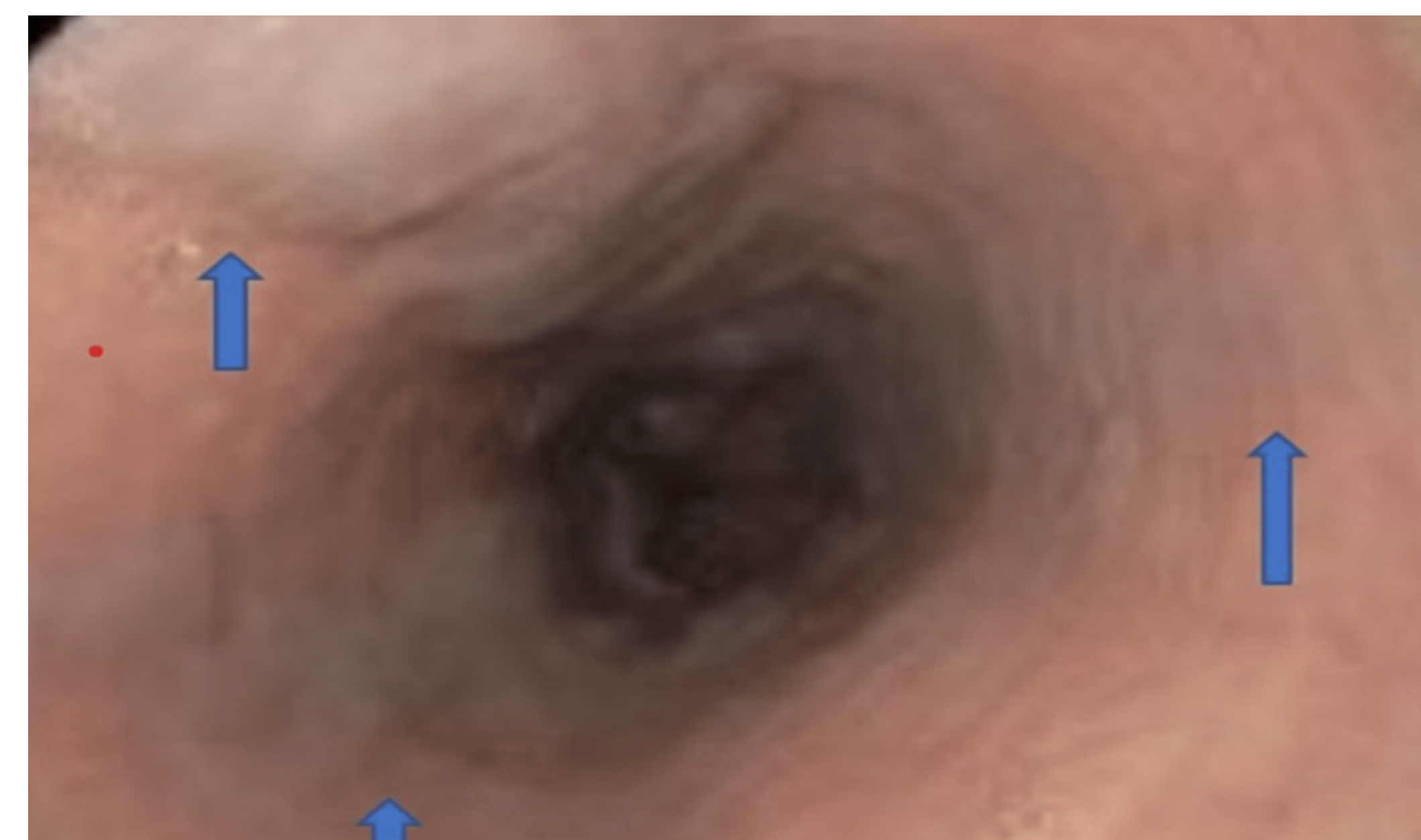


Figure 1. Upper GI endoscopy showing grade II varices in the lower third of the esophagus (blue arrows)

Clinical Course

- PET Scan was performed, it showed no signs of cancer recurrence.
- Upper endoscopy demonstrated stigmata of recent bleeding, a widened Schatzki ring in the distal esophagus, and non-bleeding gastric antral ulcers. During the procedure, banding of two grade II esophageal varices was done. She received pantoprazole and nadolol for treatment of the variceal bleed and had a workup, including a liver biopsy for possible liver disease.
- **Histopathology:** Reticulin stains highlighting parenchymal nodularity and no significant fibrosis (on reticulin and trichrome stain), suggesting nodular regenerative hyperplasia with minimal steatosis and no significant portal or lobular inflammation; mild iron deposition zone macrophages and hepatocytes, no evidence to support alpha one antitrypsin deficiency and normal glycogen on Periodic Acid-Schiff with diastase (PAS-D) stain.
- **Additional Lab studies:** Alpha one antitrypsin (AAT), Anti-smooth muscle antibody (ASMA), Anti-mitochondrial antibody (AMA), Immunoglobulin levels Hepatitis A, Hepatitis B, and Hepatitis C, were negative and ruled out other causes of NRH.

Clinical Course cont.

- The presence of NRH was attributed to using oxaliplatin for colon cancer treatment.
- She was discharged on oral pantoprazole and nadolol for management of her varices. She will also require upper endoscopies every six months and periodic blood tests for liver functions.

Discussion

- Sinusoidal obstruction syndrome is a complication of oxaliplatin chemotherapy, with NRH being the most common result of this injury.
- A liver biopsy documents the absence of cirrhosis and identifies specific histological features that help establish the diagnosis
- Variceal bleeding is the most common presentation in 85-95% of patients with NCPH. And can be prevented by variceal ligation, sclerotherapy, and beta-blockers.
- In a study done by Huang et al., the median period from the start of chemotherapy to the diagnosis of gastroesophageal varices in oxaliplatin was 50.4 months, with a range of 7-165.4 months

Contact

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