

Background and Introduction

- Nodular regenerative hyperplasia (NRH) is characterized by diffuse transformation of hepatic parenchyma into small regenerative nodules
- Thought to be a hyperplastic response of hepatocytes to vascular injury
- Can lead to non-cirrhotic portal hypertension
- Previously known as “miliary hepatocellular adenomatosis”, “non-cirrhotic nodulation”, “hepatocellular adenomatosis”, or “adenomatous hyperplasia”
- We present an uncommon case of oxaliplatin induced NRH in a patient with rectal adenocarcinoma

Case Presentation

- A 64-year-old female was diagnosed with rectal adenocarcinoma T4 N2 stage. She underwent neoadjuvant chemotherapy with Capecitabine/Oxaliplatin and pelvic radiation. Course was complicated by bowel perforation in setting of malignant obstruction requiring an emergency exploratory laparotomy.
- Intraoperative findings included 4 Liters of cloudy ascitic fluid, no evidence of peritoneal metastases and a normal appearing liver.
- Fluid cytology was negative for malignant cells and SAAG >1.1. Ultrasound of liver showed coarse architecture but normal portal venous flow velocities and patent hepatic veins. There was no history of alcohol abuse and hepatitis viral serologies were negative.

Case Presentation Cont.

- Patient underwent a transjugular liver biopsy with measurement of free and wedge hepatic vein pressures. Her hepatic vein pressure gradient was 10mmHg, consistent with portal hypertension. Liver biopsy showed no fibrosis but was notable for sinusoidal congestion and nodular regenerative hyperplasia like pattern.
- 6 months later, patient had subsequent resolution of clinical features of portal HTN (i.e. ascites) and underwent extensive abdominal surgery with curative intent. Wedge liver biopsy at time of the surgery showed liver pathology with only reactive changes.
- Patient is currently in surveillance.

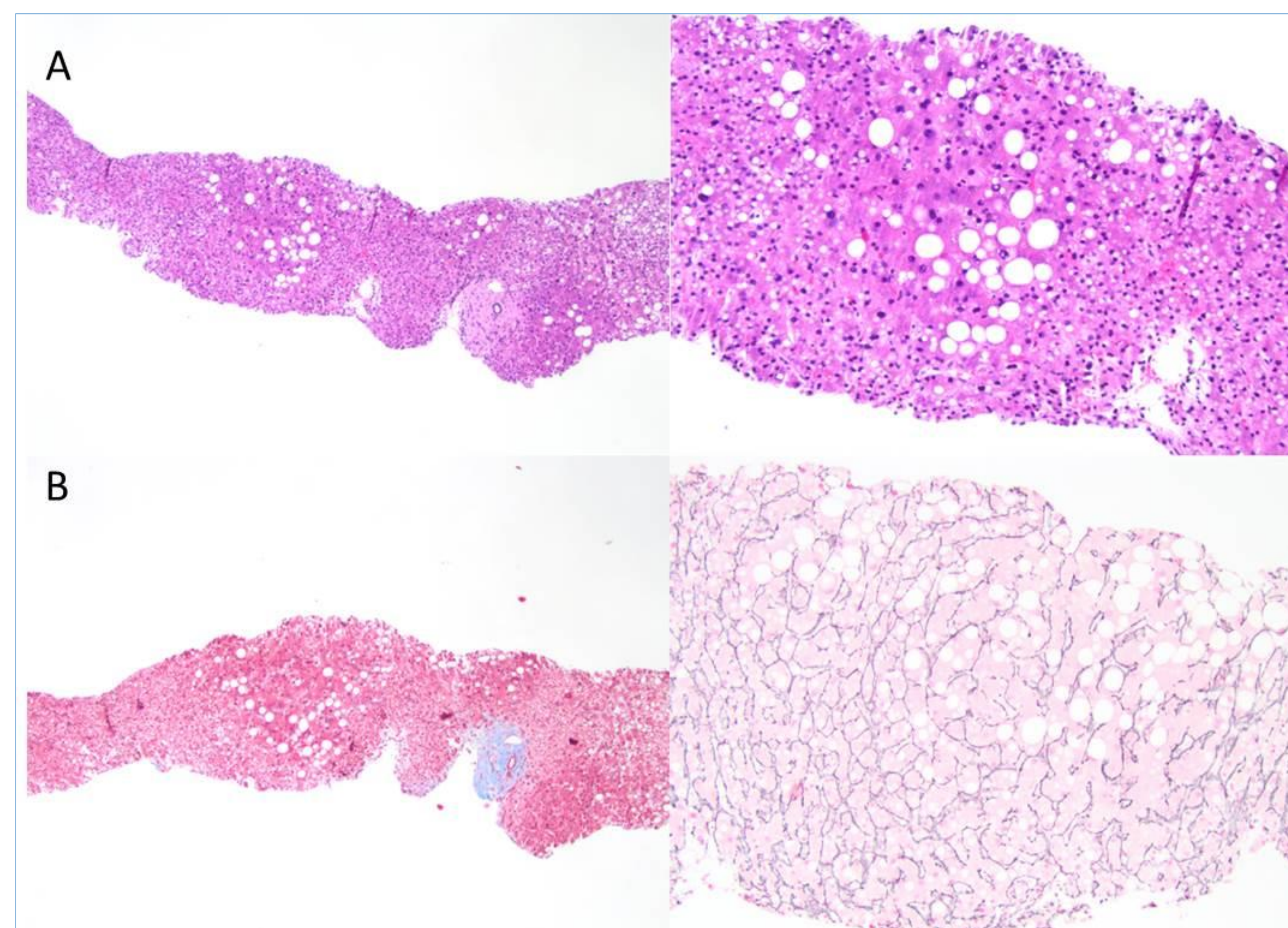


Figure 1. A) Nodules with hyperplastic hepatocytes in the center and adjacent areas of plate atrophy. **B)** Reticulin stain highlights the changes.

Discussion

- NRH is most commonly seen in patients with recurrent vascular and infectious complications (eg: chronic granulomatous disease, cystic fibrosis), hematologic malignancies, and usage of immunosuppressant and chemotherapeutic drugs (eg: azathioprine, thioguanine, oxaliplatin, cyclophosphamide)
- Latency period is typically 1-6 years and patients present with signs/symptoms of portal HTN (weakness, ascites, splenomegaly, esophageal varices)
- Diagnosis is made with liver biopsy showing presence of nodularity (usually best defined by reticulin staining) and absence of fibrous septa
- Treatment consists of stopping the offending agent and managing the complications of portal HTN

Conclusion

Nodular regenerative hyperplasia (NRH) can present with the insidious or unexpected onset of signs or symptoms of portal HTN in a patient with little evidence of chronic liver disease. In patients receiving chemotherapy and presenting with non-cirrhotic hypertension, oxaliplatin induced NRH should remain on the differential.

References

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