# NODULAR REGENERATIVE HYPERPLASIA (NRH) AS A CAUSE FOR NON-CIRRHOTIC PORTAL HYPERTENSION



# **Initial Presentation**

Consult Request for management of "cirrhosis".

#### HPI:

Patient is a 42-year-old-male with a twelve-year history of Common Variable Immune Deficiency (CVID). His only complaint at initial visit was mild, non-specific abdominal pain. He reported no history of jaundice, weight loss, or constitutional symptoms. Patient denied significant history of alcohol intake. He was receiving immune globulin (Gamunex-C<sup>®</sup>) every 28 days.

## **Objective Findings**

#### **Physical Exam**

- Middle aged male in no acute distress with stable vital signs.
- Mild abdominal tenderness and palpable "fullness".
- Examination otherwise unremarkable without ascites or clinical signs of chronic liver disease.

#### Imaging:

• Abdominal CT revealed massive splenomegaly (Figure 1), portal vein enlargement with no ascites.

#### Labs:

- Elevated Alkaline Phosphatase
- Otherwise normal

#### Esophagogastroduodenoscopy (EGD):

• Small esophageal varices

#### **Transjugular Liver Biopsy** (Figure 2):

• Minimal fibrosis but with features of nodular regenerative hyperplasia (NRH)

#### Hemodynamic Measurements:

- FHVP: 10 mmHg
- WHVP: 22 mmHg
- HVPG: 12 mmHg (nl 1-5 mmHg)

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Nodularity of liver with normal parenchyma within nodules Figure 2. Liver Biopsy Gallbladder Hepatic arteries

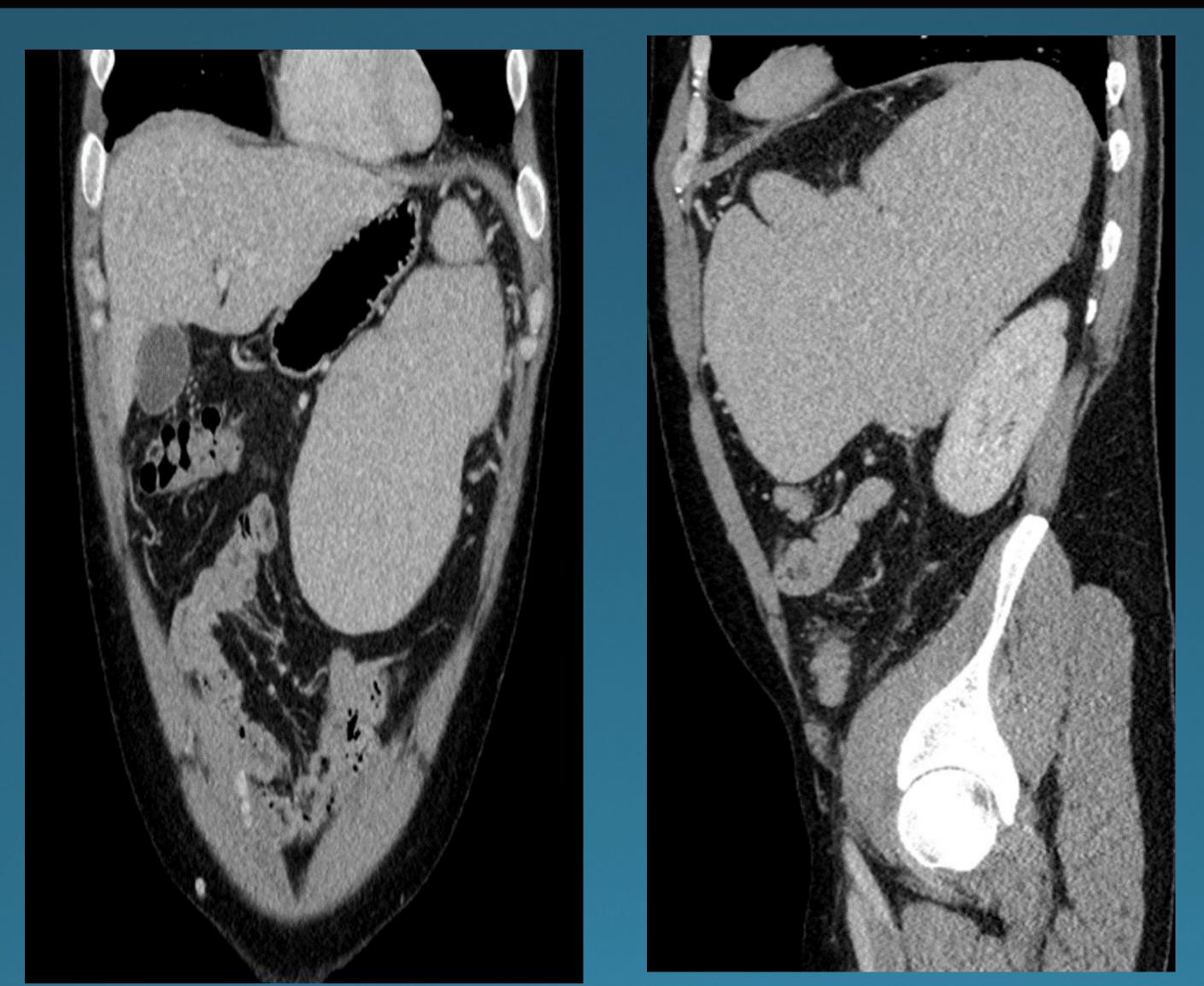


Figure 1. Splenomegaly

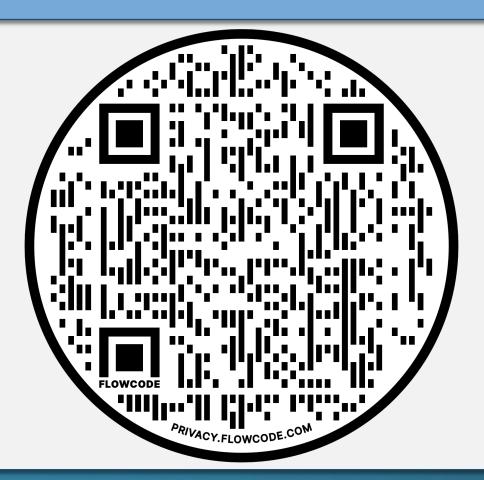
## Discussion

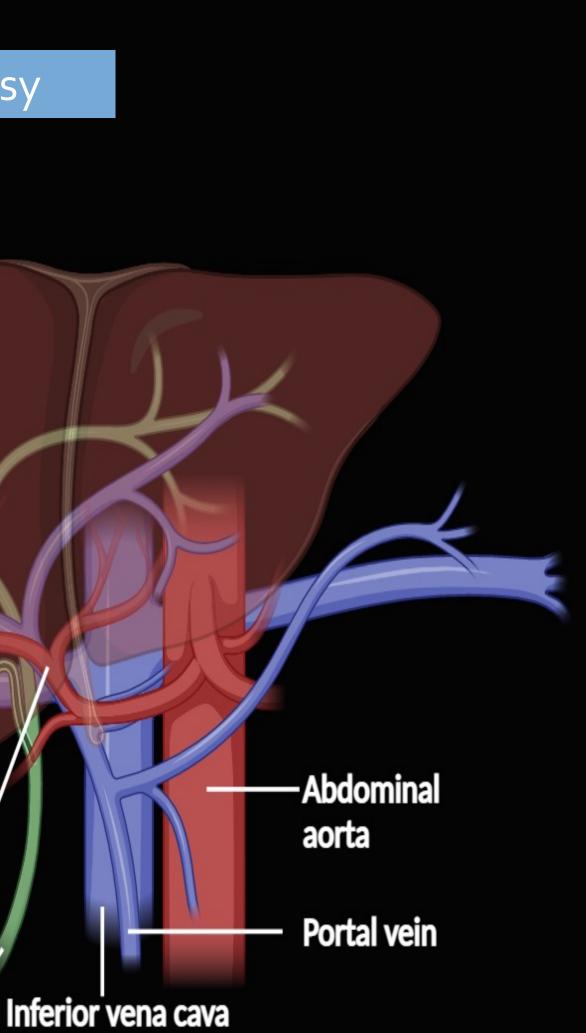
- CVID is the most common immunodeficiency  $\bullet$ disease with a prevalence of 1 in 25,000.
- It is the primary B-cell disorder with hypogammaglobulinemia.
- NRH can occur in 5-10% of CVID patients and the most common hepatic dysfunction is CVID is nodular regenerative hyperplasia.
- Mixed:
  - venopathy.
  - nodules.

### Treatments

- Non-selective Beta Blockers
- Variceal Ligation
- Mesenteric-Caval Shunts
- Transjugular Intrahepatic Portosystemic Shunt (TIPS)

### **Acknowledgements & Citations**







- Pre-sinusoidal portal hypertension (PHT) from obliterative portal

- Sinusoidal PHT from obstruction of compression of regenerative