INTRODUCTION

Cirrhosis is the most common cause of portal hypertension (PHT).

However, it is crucial to be aware that PHT can also be present in the absence of liver cirrhosis, a condition referred to as NCPH.

Clinico-radiologically NCPH simulates cirrhotic PHT (variceal bleed, splenomegaly, ascites, etc), but the management and treatment option differs.

OBJECTIVES

1. To discuss and illustrate the radiologic manifestations of different disorders that constitute NCPH

2. Appraise their patho-physiology & clinico-pathological features

3. Discuss various radiological interventional options available for management of NCPH

CONCLUSION

Awareness of NCPH is imperative for the radiologist to avoid an erroneous diagnosis of cirrhotic PHT and aid the clinical colleagues in planning apposite therapy.

HVOTO

Hepatic venous outflow tract obstruction (HVOTO) results from occlusion of one or more main hepatic veins (HV) and/or the IVC.

Liver is non-cirrhotic until late however longstanding disease predisposes to cirrhosis.

Radiological interventions include: HV or IVC recanalization/venoplasty/stent placement and TIPS

SOS

Sinusoidal obstruction syndrome (SOS) is an obliterative venulitis of the terminal hepatic venules.

A potentially fatal form of hepatic injury that occurs predominantly after drug or toxin exposure.

It can present in an acute, subacute or chronic form usually with abdominal pain and swelling, with evidence of PHT.

EHPVO

Extrahepatic portal vein obstruction (EHPVO) is characterized by obstruction of the PV +/- SV or SMV.

Pre-hepatic resistance to the splanchnic blood flow results in backpressure changes leading to NCPH.

It is a disorder of childhood and young adults.

In West, it is responsible for 11% & in the developing world 54% cases of childhood PHT.

OPV

Obliterative portal venopathy (OPV) is characterized by 'obliterative' changes in the intrahepatic PV branches leading to presinusoidal PHT.

Infections in the East and prothrombotic states in the West have been widely implicated.

OPV as a cause of NCPH is being increasingly diagnosed especially in patients with HIV. FDA has issued a warning about the association of didanosine use in HIV and OPV.

CHF

Congenital hepatic fibrosis (CHF) is an autosomal recessive disease that affects the hepatobiliary and renal systems.

Characterized by hepatic fibrosis, PHT and renal cystic disease.

Imaging shows a dysmorphic liver with preserved/hypertrophied seg-IV (unlike cirrhosis wherein there is early seg-IV atrophy).

Sinistral PHT

Sinistral, or left-sided PHT, is a rare cause of upper Gl bleed/ NCPH.

The primary pathology usually arises in the pancreas (pancreatitis or carcinoma) and results in thrombosis of the splenic vein (SVT).

Splenic bed venous pressure elevation causes splenic enlargement and formation of gastric varices which lead to hematemeses.