Portal Hypertension

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Portal Hypertension
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Introduction
Chronic liver disease plagues the body with many significant complications. One of the more commonly identified complications is portal hypertension and the increased hydrostatic pressures in PHT will lead to extensive complications, and eventually death. I chose to research this pathological process due to the frequent presentation of these complications in my line of healthcare.

Portal Hypertension causes many clinically identifiable complications:
- Long-term PHT Signs
  - Esophageal & Gastric Varices
  - Spider angiomas
  - Acites
  - Jaundice
  - Renal syndrome
  - Caput Medusae
  - Edema
  - Scleroma

Underlying Pathophysiology
The underlying pathophysiology of the increased hepatic resistance is caused by “the distortion of liver architecture associated with fibrogenesis and hepatocellular atrophy, and by increased vascular hepatic tone due to intrahepatic vasocostriction secondary to an imbalance between decreased endogenous dilators and increased vasoconstrictor stimuli” (Fernandez, 2015, p. 1407). The increased hepatic vascular resistance contributes to formation of ascites, bacterial peritonitis, and portal hypertensive gastropathy and angio genesis, and subsequent elevation in portal venous inflow which significantly affects the progression of PHT (Fernandez, 2015, p.1407). The increased splanchic flow contributes to formation of ascites, bacterial peritonitis, and portal hypertensive gastropathy and angio genesis, and subsequent elevation in portal venous inflow which significantly affects the progression of PHT.

Pre-hepatic Etiology:
- Thrombosis
- Narrowing of the hepatic portal vein

Intra-hepatic Etiology:
- Vascular remodeling
- Intrahepatic shrinks
- Thrombosis
- Inflammation
- Portal hypertension
- Viral hepatitis
- Schistosomiasis

Hepatorenal PHT Symptoms:
Portal hypertension is generally asymptomatic, but there are symptoms related to the complicated side effects of having elevated hepatic pressures:
- Various hemorraghe causing hematomeas or black tarry stools
- Mental status changes
- Abdominal distention
- Abdominal pain
- Tenderness
- Edema
- Decreased urine output

Significance of Pathophysiology
Long term portal hypertension can be difficult to treat and leads to severe complications with life threat as consequences. Formation of portal hypertension occurs due to an increase in sinusoidal resistance caused by PHT which has been identified as the main causative factor for gastrointestinal variceal hemorrhage, portosystemic encephalopathy, and ascites (Fernandez, 2015, p.1407). As a result of this increased pressure, the portal vein is more susceptible to being damaged and leads to variceal formation. The increased incidence of mortality from variceal hemorrhage lends evidence as to why portal hypertension is a significant factor for those with liver disease. Early intervention and disease surveillance is of primary concern when dealing with PHT.

Implications for Nursing Care
Implications for nursing care are primarily related to assessing, monitoring, preventing, and treating complications related to PHT. The advanced nurse practitioner will monitor labs, prescribe prophylactic medications such as anxiolytic agents to control blood pressures and decrease the risk of esophageal varices, as well as diuretic therapy to reduce fluid volume excess if indicated. Patient education on signs and symptoms of complications is a very important nursing implication.

In addition, advanced nurse practitioner will order studies such as liver and abdominal ultrasound, and barium swallow testing to assist in the identification of portal hypertension. The nurse practitioner will also collaborate with other specialties to manage the disease process. Gastroenterology and radiology specialist perform lifesaving procedures such as endoscopic variceal band ligation (EVB) to stop bleeding varices, or transjugular intrahepatic portosystemic shunt (TIPS) procedure which helps to reduce portal pressure.

Patient Education Tips:
- Monitor HR of S3 of bleeding
- Monitor platelet counts & RBC
- Monitor for ascites (i.e. Increased abdominal girth, bulging flanks, abdominal fluid waddling)

References

Additional Sources