Diagnosis and Management of Ascites

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Outline

- Diagnostic paracentesis
- Analysis of ascitic fluid
- Basic management of ascites
- Management of refractory ascites

Diagnostic Paracentesis

Diagnostic Paracentesis Candidates for Testing

- All patients with new ascites
- All patients with known ascites who have:
  - Alteration of mental status (hepatic encephalopathy)
  - Fever
  - Increasing abdominal girth
  - Abdominal pain
  - Hospital admission for any reason

Diagnostic Paracentesis: How to Tap Ascites

- Diagnostic:
  - Subumbilical with 1-inch needle on syringe
  - Patient sitting at a 30-degree angle
  - Do not need interventional radiology, platelets, or fresh frozen plasma (FFP)
  - Obtain
    - Cell count with differential
    - Culture directly into bottles at bedside
- Therapeutic:
  - Often performed in left lower quadrant
  - Caldwell needle
  - Replace albumin if creatinine is increased or above 5 L (12 g/L removed)

Analysis of Ascitic Fluid

Analysis of Ascitic Fluid

- Must have
  - Cell count
  - Culture at bedside
- Might want
  - Serum and ascitic fluid albumin
    - Serum-ascites albumin gradient (SAAG)
  - Amylase
  - Total protein
  - Cytology

Spontaneous Bacterial Peritonitis (SBP): Diagnosis

- Diagnosis of SBP:
  - Positive ascitic fluid bacterial culture
  - Absolute polymorphonuclear leukocyte (PMN) count at or above 250 cells/μL
  - Total white blood cell count above 500/μL
  - No evident intra-abdominal source of infection

Runyon BA. *Hepatology.* 2009; 49:2087-2107.

Basic Management of Ascites

Basic Management of Ascites

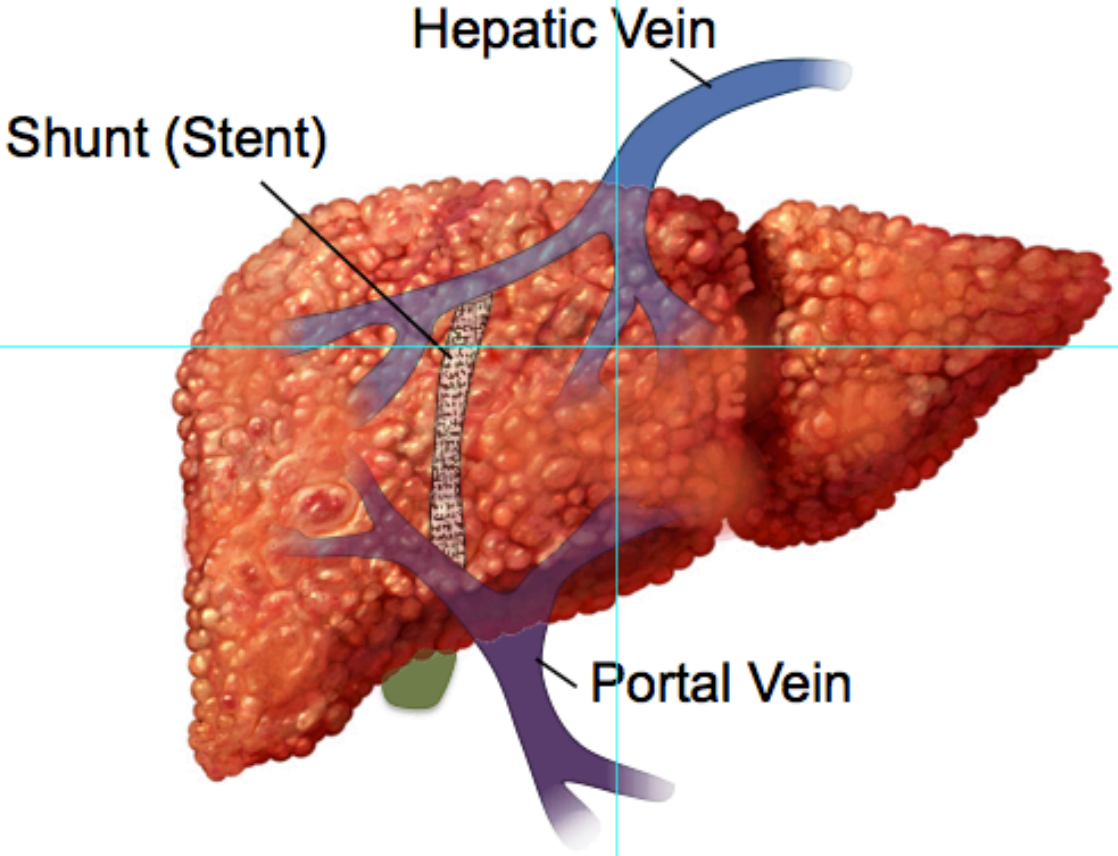
- Low sodium diet: less than 2 grams per day
- Diuretics
  - Spironolactone 50 mg per day plus furosemide 20 mg per day
  - Increase every 1 to 2 weeks by 2, to a maximum of spironolactone 400 mg per day plus furosemide 80 mg per day, or until creatinine rises
- Large-volume paracentesis (LVP), as needed
- Evaluate portal system with Doppler ultrasound

Management of Refractory Ascites

Management of Refractory Ascites

- Definition:
  - Persistent requirement for LVP despite maximally tolerated or peak diuretic therapy
- Modalities:
  - Transjugular intrahepatic portosystemic shunt (TIPSS)
  - Liver transplantation

TIPS



Summary

- All patients with ascites should be tapped early and frequently
- Diagnostic paracentesis is a safe bedside procedure
- Cell count and culture are crucial to diagnose SBP
- Low sodium diet, diuretics, and patience will lead to efficacious management in most patients
- TIPSS and liver transplantation may be required in those with true refractory ascites

End

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