Ascites

1 First Steps

Recognition – **F**latus, **F**at, **F**luid, **F**eces, **F**etus, or "**F**atal growth."

1.1 Physical Exam (1)

	Sensitivity	Specificity
Shifting Dullness	0.6	0.6-0.9 (?)
Flank Dullness	0.8	0.3-0.7 (?)
Fluid Wave	0.8	0.9

Flank dullness to percussion *is the most sensitive sign.*

Positive fluid wave *is the most specific sign.*

1.2 Imaging

Used to look for evidence of cirrhosis or malignancy. *Ultrasound* is first-line if presence of ascites is the only question.

CT scan is used to look for other intra-abdominal pathology or evaluate a known lesion like hepatocellular carcinoma.

Ultrasound can detect as little as 100 mL of fluid.

2 Evaluation

Typical labs:

Albumin & total protein

Cell & differential counts

Serum albumin

Gram stain and culture (~)

2.1 Paracentesis

Appearance - Clear, Turbid, Chylous (milky), Pink/Bloody, Brown, Black

2.1.1 Labs

Serum-to-Ascites Albumin Gradient (SAAG) – Used to determine if ascites has portal hypertension etiology. Exudate vs transudate not used!

- ≥1.1 g/dL indicates portal hypertension
- < 1.1 g/dL indicates non-portal hypertension

Ascitic Protein – Used in high-SAAG ascites to differentiate between normal and abnormal hepatic sinusoids.

- ≥2.5 g/dL indicates normal sinusoids
- < 2.5 g/dL indicates damaged/scarred sinusoids

Other

- **Glucose & Lactate Dehydrogenase** (peritonitis 2° to perforation)
- **Amylase** (pancreatic peritonitis)
- **Cytology** (peritoneal carcinomatosis)
- **CEA, Triglycerides, Bilirubin concentration, Serum BNP**
- **Laparotomy/laparoscopy with peritoneal biopsy**
- **Ascitic adenosine deaminase** not useful in USA due to high cirrhosis prevalence

"High SAAG = High Pressure!"