

## Concept: Refractory Ascites

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**Case Scenario:** 68-year-old man diagnosed with alcoholic liver cirrhosis and portal hypertension presents for the third time with abdominal distention and shortness of breath. You are consulted to evaluate for IR drainage.

### Evaluation:

- **What is the cause of ascites?**
  - Portal venous hypertension
  - Congestive heart failure
  - Peritoneal carcinomatosis
  - Malignant obstruction of lymphatics
  - Portal vein thrombosis
  - Constrictive pericarditis
  - Nephrotic syndrome
  - Peritoneal infection
- **Serum-ascites albumin gradient (SAAG) Classification**
  - SAAG = (serum albumin concentration) minus (ascitic fluid albumin concentration)
    - **SAAG > 1.1 g/dl = ascites in part due to increased portal pressure** (cirrhosis, hepatic congestion, CHF, or portal vein thrombosis)
      - Note: Responds better to diuretics
    - **SAAG < 1.1 g/dl = no portal hypertension** (peritoneal carcinomatosis, peritonitis, nephrotic syndrome, malnutrition/ hypoalbuminemia)
      - Note: Does not respond to diuretics
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### Management Options:

- **Paracentesis**
  - provides immediate relief In 90% of patients
  - removing 4-6 L can be done safely in multiple healthcare settings
  - Important to use ultrasound to evaluate for loculated fluid
- **Abdominal Drainage catheters**
  - Ideal for patients who require frequent paracentesis
  - Patient or caregiver can perform drainage at home
    - Types:
      - **Pigtail catheter** (temporary)
        - Complications with long-term use:
          - Peritonitis
          - Accidental dislodgement
          - Leakage
          - Occlusion

- **Tunneled catheter** (ideal for life expectancy < 1 month)
      - Uses antibiotic-impregnated Dacron cuff in subcutaneous tissue to reduce risk of dislodgement and decrease risk of infection
      - Ex. PleurX and Aspira catheters- FDA approved for malignant ascites
- **Vascular Shunts** (Ideal for life expectancy 1 to 4 months)
  - Types:
    - **Peritovenous shunt (PVS)**
      - **AKA Denver Shunt**
      - Transfers peritoneal fluid and proteins in benign ascites back into systemic circulation through the SVC
      - Best response with ovarian and breast cancer
      - Occlusion rate up to 24%
    - **Transjugular Intrahepatic Portosystemic Shunt (TIPS)**
      - Shunt stent placed between portal vein and hepatic vein to reduce portal hypertension
      - MELD Score stratifies post-procedural mortality risks
      - Additional risks of worsening encephalopathy and right heart failure
- **Hyperthermic Intraperitoneal Chemotherapy (HIPEC)**
  - Select patients with carcinomatosis and malignant ascites
  - Warmed chemotherapy infused into peritoneal cavity
  - When done at time of cytoreductive surgery, recovery takes 3 to 6 months
    - Note: Important to have goals of care discussion with your patient

**Important Information to Discuss with Patients:**

- All treatment options and complications
  - Tx options confer variable benefits/risks
- Goals of Care
  - Key for guiding treatment choice and expectations
- Expectations after treatment
  - Tx options are palliative and not curative
  - Tx options are effective short-term

**References:**

LeBlanc K. & Arnold, R. (2015). Evaluation of Malignant Ascites. *Palliative Care Network of Wisconsin*. #176. [www.eperc.mcw.edu](http://www.eperc.mcw.edu).

LeBlanc K. & Arnold, R. (2015). Palliative Treatment of Malignant Ascites. *Palliative Care Network of Wisconsin*. #177. [www.eperc.mcw.edu](http://www.eperc.mcw.edu).