PALLIATIVE CARE NETWORK OF WISCONSIN

**FAST FACTS AND CONCEPTS #177**
**PALLIATIVE TREATMENT OF MALIGNANT ASCITES**

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**Background** The natural history, presenting signs/symptoms, and diagnostic approach to the patient with malignant ascites are discussed in *Fast Fact* #176; readers are encouraged to read this *Fast Fact* to review the important role of determining the Serum Ascites-Albumin Gradient as a diagnostic and treatment aid. This *Fast Fact* will review treatment approaches.

1. **Diuretics:** Malignant ascites (SAAG < 1.1) generally does not respond to diuretic treatment although no randomized trials have been completed. Patients with evidence of portal hypertension (SAAG > 1.1) are more likely to respond to diuretics.

2. **Paracentesis:** Paracentesis can provide immediate relief of symptoms in up to 90% of patients. Drainage of uncomplicated large-volume ascites (4-6 L/session) can be done safely and quickly in the outpatient setting—including the home—or at the hospital bedside; ultrasound guidance is necessary only when there is loculated fluid.

3. **Drainage catheters:** For patients who require frequent paracentesis, external drainage catheters placed through the abdominal wall allow frequent or continuous drainage of ascites fluid without repetitive needle insertions. Patients or caretakers may perform the drainage, reducing visits to medical clinics. Several types of catheters are available:
   a. Pigtail Catheter: A simple, temporary all-purpose catheter; they are prone to complications when used over an extended duration (peritonitis, accidental removal, leakage, occlusion), hence are rarely used now.
   b. Tunneled Catheter: A catheter that prevents infection by promoting scarring around an antibiotic-impregnated Dacron cuff in subcutaneous tissue. Used conventionally for peritoneal dialysis, it is placed with ultrasound or fluoroscopic guidance and has lower risks of infection and leakage than the pigtail catheter. Complications are reduced by daily drainage for the first two weeks of cuff healing. The *PleurX catheter* is FDA approved for malignant ascites and features a one-way rubber valve to prevent leaks between draining sessions. Tunneled catheters are used in patients with life expectancy of at least one month.

4. **Vascular Shunts:**
   **a.** Peritovenous shunt (PVS) systems are designed to channel peritoneal fluid and proteins in benign ascites back into the circulation via the superior vena cava. PVS has not been shown to have clinically significant risk of disseminating tumor cells in malignant ascites. A PVS is placed by interventional radiology under conscious sedation, and patients typically require 24 hours of monitoring with a central venous line after the procedure. The best response to PVS (only about 50%) is in ovarian and breast cancers. PVS is recommended only in patients with a life expectancy of one to four months, considering that eventual occlusion rate is up to 24%.
   **b.** Transjugular Intrahepatic Portosystemic Shunt (TIPS) is a shunt between the portal vein and hepatic vein, designed to reduce portal hypertension and improve sodium balance. Most patients with malignant ascites do not have portal hypertension although TIPS might be helpful in the occasional cancer with evidence of increased portal pressures (SAAG > 1.1).

5. **Hyperthermic Intraperitoneal Chemotherapy (HIPEC):** This procedure is performed by surgical oncology specialists and entails warmed chemotherapy being infused into the peritoneal cavity for a short period of time. Most commonly this procedure is done along with tumor debulking or cyto-reductive surgery (CRS). However, considering that recovery from HIPEC with CRS can take 3 to 6 months, CRS-HIPEC is typically reserved for low-grade appendiceal primary cancers seeing that these cancers are associated with a longer survival. For patients with anticipated shorter survivals, HIPEC without CRS can be done laparoscopically (and is therefore associated with less morbidity) with high rates of ascites control.

**References**


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