



# ■ Peritoneal Access Devices and Malignant Ascites

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# Pathophysiology

- Mechanical – obstruction of lymphatic drainage by tumor cells
- Cytokines – implicated in the increased vascular permeability leading to excess fluid accumulation as in cirrhosis
- Hormonal – decrease removal of fluid (lymphatic obstruction) – reduced blood volume (Smith & Jayson, 2003)

# Ascites Associated With Different Cancer Sites

- Ovarian
- Endometrial
- Breast
- Colon
- Gastric
- Pancreatic

(Smith & Jayson, 2003)

# ■ Ascites – S & S

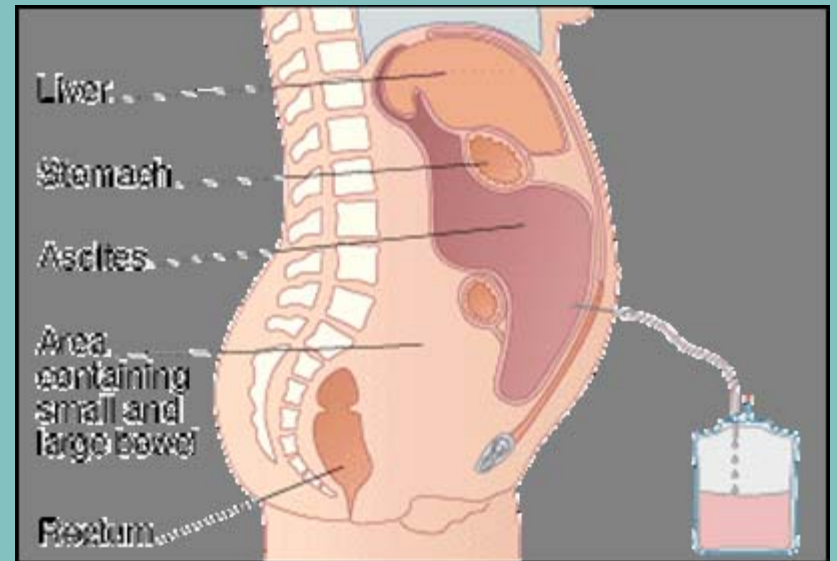
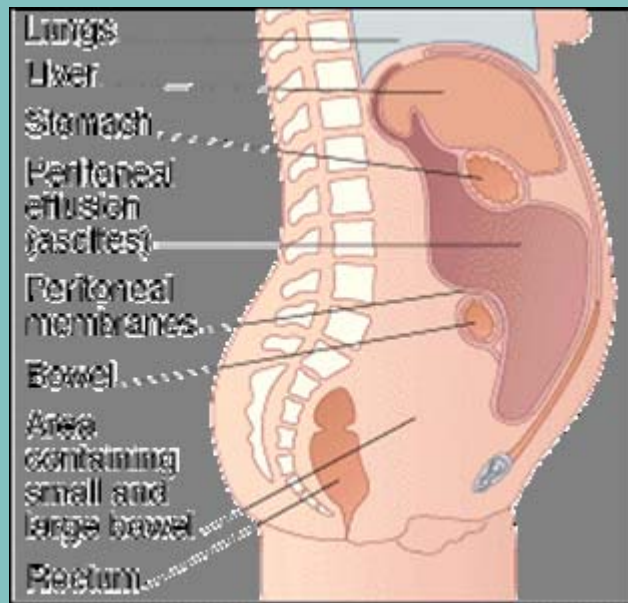
- Abdominal distension, fullness, pressure
- SOB, dyspnea, orthopnea
- Early satiety, nausea & vomiting
- Dehydration
- Difficulty with bending or sitting upright
- Heartburn
- Altered bowel habits
- Peripheral edema
- Navel changes

# Ascites in the Cancer Population

- Ascites is seen in advanced or progressive disease
- In most patients survival is limited to months
- Exception is women with ovarian cancer as they have an extended survival period
  - 1/3 present with ascites at diagnosis
  - 2/3 have ascites at death

Walczak & Heckman, 1999

# Ascites in the Peritoneum





# Ascites



# Treatments for Ascites in the Cancer Patient

- Diuretics
- Peritoneo-venous Shunt
- Chemotherapy
- Intraperitoneal chemotherapy
- Intraperitoneal immunotherapy
- Paracentesis
- Decreased Sodium Intake

(Smith & Jayson, 2003)

# Uses for Intraperitoneal Access Devices

- Provide repeated access to the peritoneal cavity for the administration of IP therapies
- Provide for relief/palliation of symptomatic ascites at diagnosis or in end of life care
- Provide access for initial diagnosis or recurrence (cytology)

# Types of Paracentesis Catheters

## External

### Temporary

Cathalons

Pigtail

### Permanent

Pigtail

Tenchkhoff

## Implanted

SC Ports (either temporary or permanent)

# Case Study

- Diagnosis: Recurrent Stage 3 Epithelial Carcinoma of the Ovary
- 72 year old woman
- Underwent TAH (total abdominal hysterectomy) & BSO (bilateral salpingo-oophorectomy) when first diagnosed
- Metastatic disease to the omentum and omentectomy completed as well
- No reoccurrence for 3 years

## Case study (cont'd)

- Received chemotherapy when first diagnosed and when diagnosed with recurrent disease, second-line chemotherapy was given.
- Diagnosis of recurrent disease was confirmed by CT and ascites was present
- 3 liters of fluid withdrawn
- Within one month, continued weight gain and stretching of the abdominal skin
- Ultrasound guided temporary peritoneal drain inserted for removal of 4 liters of fluid
- Third line chemotherapy given

# Maintenance and Care of Paracentesis Catheters

## ■ Literature

- Most of the literature from peritoneal dialysis has been applied to paracentesis catheters in the cancer population
- Some studies on Intraperitoneal Therapies in the cancer population
- No research studies could be found on the specifics of this skill in the cancer population

# Benefits to the Patient from a Paracentesis Catheter

- Relief of symptoms (i.e. pain, SOB, anorexia)
- Decreases number of repeated paracentesis
- Decrease amount of visit to hospital and clinics
- Care can be provided in the home
- Increases the patient and families QOL

# Complications of Paracentesis Catheter

## Post-insertion Complications:

- Pain at the exit site – usually resolves in 5-7 days
- Bleeding into the peritoneum
- Potential for bowel perforation – assess for severe abdominal pain, fever, tense abdomen and bowel sounds
- Peritonitis – assess for fever, N&V, severe abdominal pain, cloudy peritoneal fluid

# Other Catheter Complications

- Infection
- Leakage around site
- Non-function catheter (blockage)
- Catheter dislodgment
- Hypotension
- Bleeding
- Decreased Albumin
- Decreased Fluid Volume

# Nursing Care of a Patient with a Semi-Permanent Paracentesis Catheters in the Management of Malignant/Chronic Ascites

- **Assessment & Care**
  - **Bed rest post-insertion**
- **Exit site care & Dressings**
  - **Initial exit site care & dressing in 7 days unless needed**
  - **Subsequent care & dressing 3x/weekly**
  - **Catheter caps (if applicable) changed weekly & prn**

# Nursing Care of a Patient with a Semi-Permanent Paracentesis Catheters in the Management of Malignant/Chronic Ascites

- **Flushing and Lock-Up**
  - **Routine care & maintenance of IP device includes weekly flushing aseptically with 20 cc sterile NS & flushing each time the device is accessed**
  - **Flushing & lock up is also completed following specimen collection and/or draining of peritoneal fluid**

# Nursing Care of a Patient with a Semi-Permanent Paracentesis Catheters in the Management of Malignant/Chronic Ascites

## ■ Drainage

- **Maintain sterile technique while connecting paracentesis bag to the catheter**
- **VS q15 minutes during the procedure & for an hour post-procedure or as ordered**
- **Do not empty the bag from the bottom. Change the bag completely.**

# Nursing Care of a Patient with a Semi-Permanent Paracentesis Catheters in the Management of Malignant/Chronic Ascites

- **Specimen collection**
  - **With sterile technique, remove 20 mLs of fluid for specimens**
  - **Flush and lock up post specimens if no drainage bag**

# Nursing Care of a Patient with a Semi-Permanent Paracentesis Catheters in the Management of Malignant/Chronic Ascites

## ■ Transfer set change

- Add solution, gauze, keyhole dressing, mini cap and transfer set to sterile dressing tray
- Sterile gloves, close clamp on new transfer set & attach mini cap
- Place sterile drape on abdomen & cleanse 2” at the end of pigtail catheter and old transfer set
- Detach dirty transfer set and apply sterile transfer set
- Flush and lock up if not attached to drainage bag



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# ■ ■ Preprinted Orders

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# ■ Patient Education


- Teach patient +/- family to prevent, identify & report S & S of infection, bleeding, dislodgement, and tube blockage.
- Identify and teach patient +/- family regarding any restrictions in activities of daily living.
- Review potential for pain and measures to maximize comfort.

## Case study (cont'd)

- Within 2 months, CT scan showed progressive disease- 3<sup>rd</sup> line chemo ineffective
- Primary issue is ascites
  - Paracentesis for 1.5 liters
  - 4<sup>th</sup> line chemotherapy
  - Paracentesis in 2 weeks for 2 liters
  - Within 2 weeks a percutaneous drain was inserted for 3 liters of drainage and left in
  - Client died one month later at home with her family present.

# References

- Barnett & Rubins (2002). Placement of permanent tunneled peritoneal drainage catheter for palliation of malignant ascites: a simplified percutaneous approach. *J Vasc Interv Radiol*, 379-383.
- Iyengar, T. & Herzog, T. (2002). Management of symptomatic ascites in recurrent ovarian cancer patient using an intr-abdominal semi-permanent catheter. *American Journal of Hospice & Palliative Care*, (19)1, 35-38.



Lee, A., Lau, T.N., Yeong, K.Y. (2000). Indwelling catheters for the management of malignant ascites. *Support Care Cancer* 8, 493-499.

Murphy, M. & Rossi, M. (1995). Managing ascites via the tenckhoff catheter. *Medsurg Nursing*, (4)6, 468-471.

Oncology Nursing Society. (2003). M. Povich (Ed.) *Safe handling of hazardous drugs*. Pittsburg:ONS Publishing Division.



Oncology Nursing Society (2004). Intraperitoneal catheters. In Dawn Camp-Sorrell (Ed.), *Access device guidelines: recommendations for nursing practice and education* (pp.