Sir Charles Gairdner Hospital Guideline#

Title: ABDOMINAL PARACENTESIS IN CHRONIC LIVER DISEASE

This Revision Issued: 1st November 2013
GUIDELINE STATEMENT:

SCGH Operates in accordance with
Hospital Policy #013 Informed Consent
This guideline provides hospital specific guidance to
Medical staff, Nursing staff

Scope: Medical and Nursing management of paracentesis

Responsibilities:
Medical:
Written informed consent as Hospital Policy #013
Performing diagnostic paracentesis and / or insertion of drain for therapeutic paracentesis
Ensure venous access available, coagulation profile available from previous 24hrs
Prescribe 20% Normal Serum Albumin (NSA) prior to commencement of therapeutic paracentesis
Nursing:
Monitoring of patient during paracentesis
Monitoring of drainage, removal of drain and post procedure care

Introduction

- The development of refractory ascites in the setting of cirrhosis is associated with a 50% 2-year survival.
- All cases should be discussed with the Hepatology team.
- Spontaneous bacterial peritonitis (SBP) may be asymptomatic and can only be excluded by ascitic fluid analysis
- Dietary sodium restriction and diuretic therapy (not therapeutic paracentesis) are the first line treatment for ascites.
- Paracentesis may be diagnostic (typically 20mls fluid removed for analysis) or therapeutic (large volume paracentesis, drain to dry)
- Abdominal paracentesis is generally well tolerated and is frequently done as an outpatient.
- Risk of bleeding is low; need for correction of coagulopathy should be indivualised
- Consider individualised requirement for intravenous antibiotics. All Childs C patients to receive one dose of intravenous Tazocin prior to therapeutic paracentesis.

Diagnostic Paracentesis Indications	Therapeutic Paracentesis Indications
• New onset ascites or ascites of unknown origin • Patient with known ascites with fever, abdominal pain, hypotension, encephalopathy, or general deterioration.	• Large/Tense ascites or diuretic failure/resistance. The rationale behind this procedure is to improve patient comfort. • Large ascites in the presence of a symptomatic hepatic hydrothorax

Contraindications to diagnostic/therapeutic paracentesis	**Additional Contraindications to therapeutic paracentesis**
• Uncooperative patient • Acute abdomen that requires surgery • Intra-abdominal adhesions • Distended bowel • Pregnancy • Disseminated intravascular coagulation • Inexperienced doctor	• If patient does not have symptoms do not perform • Spontaneous Bacterial Peritonitis • Hypotension • Do not perform if patient has hepatorenal syndrome or acute renal failure, renal function will deteriorate. 3L can be removed for comfort. • Relative indications include: frail patient, systemic or local infection

List of equipment

Diagnostic Paracentesis	**Therapeutic Paracentesis add**
Catheter pack Sterile fenestrated drape or towel Sterile gown PPE: sterile gloves / goggles 19G x 1 ½" (white) drawing up needle 20ml syringe (for fluid aspiration) Chlorhexidine 2% in 70% alcohol Absorbent sheet Adhesive absorbent dressing (e.g. Post op Opsite ™) Blood culture bottles Sterile yellow top container, Clotted tubes	Lignocaine 1% 50mg in 5ml 23G x 1" (orange) needle 10ml syringe (for local anaesthesia) Pharmaceal ™– Thoracentesis/ Abdocentesis kit (includes drainage tube and scalpel) 2 x occlusive dressing (e.g. Tegaderm™ or stat lock small (6-8.5fr)™) Drainage bag (2 litre luer lock) and holder Wet strength bag NSA 20% 100ml

Safety Information

Diagnostic or Therapeutic Paracentesis

- Patient must be identified by three indicators (e.g. name, DOB, address or URM)
- Explain the procedure to the patient including complications (infection, punctured viscera, bleed, and hypovolaemia). Written consent as per Hospital Policy 013
- Record baseline core observations
- Prophylactic infusions of plasma or platelets not required for diagnostic paracentesis
- Ask the patient to empty their bladder pre procedure
- Position patient on his / her back in a slightly recumbent position leaning toward the site of paracentesis
- Examine abdomen for optimal site. Ideally the right or left Iliac fossa, 2 finger breadths cephalad and 2 finger breadths medial to the ASIS
- Check the area is dull to percussion and confirm shifting dullness. If there is clinical doubt regarding the presence of ascites, then the paracentesis should be guided using ultrasound.

- Exclude significant hepatomegaly, splenomegaly, visible vessels or scars in the area. Avoid the inferior epigastric artery which runs along the edge of the rectus sheath.

Diagnostic Paracentesis:

Procedure

Maintain standard aseptic technique at all times. Follow the risk assessment outlined in the Aseptic Technique Framework available at SCGH Intranet/Department/Infection Control Manual/ Aseptic Technique Policy No.18"

- Clean trolley/work surface with pre-diluted detergent and water or detergent wipe.
- Gather equipment for the procedure.
- Perform hand hygiene and prepare sterile field using a non touch technique
- Don sterile gloves and gown
- Place sterile fenestrated drape or towel at proposed site
- Clean the area with Chlorhexidine 2% in 70% alcohol for a minimum of 30 seconds, allow to dry for 20-30 seconds
- Using the19g needle and 20ml syringe advance the needle while aspirating. Once a flashback is seen do not advance further but continue to aspirate approx. 20mls of ascites
- If you cannot get fluid, reposition the needle without removing from skin. If still there is no fluid, pull out needle, use new sterile needle and syringe and repeat.
- If you are unable to aspirate fluid request ultrasound guided
- If a therapeutic paracentesis is not required cover the aspiration site with a post op Opsite ™ dressing using a non touch technique.
- Dispose of waste appropriately.
- Remove gloves and gown and perform hand hygiene.
- Clean trolley after use with pre-diluted detergent and water or detergent wipe

Therapeutic Paracentesis

Procedure

- Perform a diagnostic paracentesis procedure as described above to confirm the ideal location for the drain.
- Maintain aseptic non touch technique
- Inject local anaesthetic
- Make small incision (<3mm) with a scalpel
- Insert the drain using Z technique (pull the adjacent skin down and toward the midline during insertion then release). If you are unable to aspirate fluid request ultrasound guided.
- Secure drain to skin with dressings ensuring drain is not kinked (suture should not be used).
- Attach the drainage bag to the drain.
- Alert the nurse that the drain has been inserted.

Procedure notes

- Write a procedure note documenting: site, time, and consent, indications for procedure, character of fluid, any complications and analysis of ascites requested.

Nursing Management of paracentesis drain

Safety Information

- Patient to remain in bed while drain in situ and until NSA infusion complete (see below)
- Patients can experience hypotension or decreased urine output related to paracentesis induced circulatory dysfunction for up to five days post therapeutic paracentesis

Pre Procedure

- Record patient's weight prior to drain insertion.
- Ensure patient has recently emptied their bladder to minimise risk of perforation
- Observe and support patient throughout insertion procedure

Drainage of Ascites

- Record core observations ½ hrly for 1hr then hourly until drainage complete / discharge from short stay areas
- Drainage should be continuous, do not clamp tubing or interrupt drainage unless specifically instructed by senior Hepatologist
- Drains inserted in the radiology department: radiology department to attach a 2 litre drainage bag to catheter, leave unclamped allowing free drainage on return escort to ward
- Record ascitic drainage on fluid balance chart (MR 904) or clinical pathway (MR710)
- Replace ascites at start of procedure or on return from radiology department
    - One bottle, 100mls 20% NSA
    - Then one bottle 100mls 20% NSA for every 3litres drained, (unless otherwise specified)
    - Each bottle of NSA infused over one hour
- Observe puncture site for any leakage around drain and report
- If fluid stops draining prematurely, contact medical officer

Drain removal

- Remove drain after a maximum of 6 hours or before if drainage stops
- Remove drain (as per NPG 65)
- Apply sterile dry dressing and adhesive occlusive secondary dressing.

Post drain removal

- Record patient's weight.
- Assist patient when first mobilised post procedure, risk of postural hypotension and falls
- If fluid leakage occurs, lay patient on opposite side to insertion site for 2 hrs.
- If excessive drainage, apply wound management bag over site
- Consider suture if fluid leakage continues for > 24hrs.
- Continue to document any further drainage of ascitic fluid on FBC (MR 904) or clinical pathway MR710
- Consider further NSA 20% replacement if drainage continues, in consultation with medical team

- Observe for signs of secondary peritonitis, haematuria, post paracentesis circulatory dysfunction (hypotension, reduced urine output) can occur up to 6 days post procedure
- Discharge education: Inform patient of potential signs and symptoms

Ascitic fluid analysis (Routine)

- Microscopy and WCC + differential (yellow top sterile container to Microbiology)
- Blood culture bottles
- Albumin concentration and serum albumin concentration (clotted blood tube to Biochem)

Interpretation

- If the polymorphonuclear leucocyte count is >250 cells/mm3 => SBP
- Discuss all cases of SBP with Hepatology.
- Serum-ascites albumin gradient = serum albumin - ascitic fluid albumin if>1.1 g/dL portal hypertension is present; if < 1.1 g/dL portal hypertension is not present (about 97% accurate)

Ascitic fluid analysis (Specific additional investigations)

- Microbiology for AFB, PCR and culture for mycobacteria – only if there is high index of cadtuberculosis
- Cytology – suspicion of peritoneal carcinomatosis
- Lactate dehydrogenase >225mU/L, glucose <50mg/dL, total protein >1g/dL and multiple organisms on culture suggest secondary bacterial peritonitis (ruptured viscus or loculated abscess)
- A high level of triglycerides confirms chylous ascites.
- An elevated amylase level suggests pancreatitis or gut perforation.
- An elevated bilirubin level suggest biliary or gut perforation

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RISK STATEMENT: Non-compliance with this guideline will (please tick all that apply [right click on box, change properties, checked]):			
Breach legislative requirements	☐	*Impact on Patient Quality of Care*	☒
Breach National/State/Hospital Policy	☐	*Impact on Patient Safety*	☒
Breach professional standards	☒	*Other:*	
Breach SCGH Mission & Values	☒		

Endorsing Authority:	
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References (Standards):	
National Standard/s	Standard 2 partnering with consumers. Standard 3 preventing and Controlling Healthcare Associated Infection. Standard 9 Recognising and Responding to Clinical Deterioration in Acute Healthcare
Legislation	N/A
Standards	N/A
Related Documents	N/A