

Draft Guidelines for the Management of Malignant Ascites.

Treatment of accumulated fluid should be **minimally invasive, should not add to the patient's burden and should be aimed at relieving symptoms.**

Diuretics

- May be a helpful initial treatment when the abdomen is not tense and paracentesis is not immediately indicated for symptom relief. The aim, in this situation, is to reduce the volume of ascites so that the patient can avoid need for drainage.
- More commonly the patient presents with a tense abdomen which needs drainage and/or other definitive management (such as analgesia). Diuretics should in this case be trialled after definitive procedures, if the patient is well enough. The aim being to slow or prevent reaccumulation of ascitic fluid.

Spironolactone is the diuretic of choice.

1. Baseline urea and electrolytes
2. Spironolactone starting dose 100-200mg mane
3. Dose increase by 100mg every 3-7 days (Maximum response after 2-3 days).

Usual maintenance	300mg mane
Maximum	400mg mane
'Success'	measured by relief of symptoms (or weight loss, in hospital)

If no change in symptoms with spironolactone then consider addition of furosemide 40mg mane¹.

If responsive, substantial reduction in ascites may take 10-28 days.

Some patients may be too frail to tolerate large doses and care should be taken if there is significant renal impairment.

Side effects may include hypotension and electrolyte disturbance, especially risk of hyperkalaemia. If there is any clinical concern that there might be biochemical disturbance U and E's should be measured.

If there is deterioration in renal function, diuretics should be stopped.

See BNF for specific interactions with drugs such as NSAIDs and digoxin.

Response is unpredictable. Only in cirrhotic-type ascites (or large liver metastases) is there evidence of effectiveness; **diuretics in this situation may be very helpful.**

However we often do try them in ascites with other than large liver metastases, particularly when patients are too frail to undergo any other intervention.

If consensus is that diuretics have not reduced the rate of reaccumulation of ascites, nor the volume accumulating, then they should be stopped.

Paracentesis

This is the drainage of ascitic fluid via a catheter inserted through the abdominal wall. Symptoms improve in about 90% of cases though the ascites may reaccumulate rapidly. Unnecessary investigations should be avoided and drains should be left in for only a short time.

The guiding principle is one of minimal disturbance.

¹ In studies comparing spironolactone with loop diuretics such as furosemide, treatment with even very large oral doses of furosemide (>200mg) generally failed to relieve ascites. Whereas spironolactone in a median daily dose of 300mg significantly reduced ascites in about 2/3 of patients. (PCF 1998).

Guidelines for Paracentesis

In advance:

1. Give appropriate explanation and ascertain whether the patient has any strong expectations about the procedure, hydration or resuscitation in the event of complications.
2. If there is evidence of substantial ascites in the form of a tense abdomen and fluid thrill it is usually safe to proceed with drainage without USS imaging.
3. Ultrasound evaluation with or without marking of the drainage point may be required in cases of diagnostic uncertainty or suspected loculation of ascites.
4. If there is ascites clinically, or it is radiologically confirmed but the abdomen is not tense and there is no fluid thrill consider deferring the procedure as benefit will be limited. What is the aetiology of this ascites? Particularly in the case of portal hypertension, secondary to e.g. massive liver metastases, have diuretics been tried?
5. If the patient is frail, consider whether paracentesis is appropriate or whether alternative symptom control measures are to be preferred, e.g., analgesics for abdominal discomfort, metoclopramide and antacids for 'squashed stomach' symptoms.
6. Intravenous fluids are not routinely required.

Performing the procedure:

7. A baseline pulse and blood pressure measurement should always be recorded as it will help inform drainage rate. If hypotensive (systolic $<100\text{mmHg}$) or dehydrated or if known to have severe renal impairment, and the procedure is still indicated, *consider* intravenous hydration with 0.9% saline.
8. The procedure should be performed by a nurse and doctor together, so that sterility is maximal, also so that the patient can be supported whilst the insertion procedure is taking place.
9. A drain pack is used e.g. bonanno suprapubic catheter set.
10. The drain should be inserted into either flank under sterile conditions, after anaesthetising the insertion area with 1 or 2% lignocaine.
11. Sutures should be avoided as they prolong the procedure, may increase discomfort, and fluid may leak from suture holes. The drain can be well secured with tape and cushion padding.
12. Once the drain has been inserted the patient should be given a dose of prn analgesia to cushion discomfort as the local anaesthetic wears off.

Drainage: Aim is to drain comfortably, as quickly as possible, with drain out as soon as possible.

- If normotensive prior to the procedure (systolic BP $>100\text{mmHg}$), and previous procedures have been well tolerated the drain should be left to drain freely, up to 5L.
- If less than 5L drains then the rate slows considerably or stops, the drain should be removed.
- If 5L drains the drain should be clamped for 6 hours before drainage resumes. (It may be more appropriate/less disruptive for the patient for the drain to be clamped overnight).
- A repeat BP and pulse measurement should be recorded again before free drainage resumes. If systolic BP remains $>100\text{mmHg}$ then free drainage can be resumed, again up to 5L a/a, or to stop as described above.
- These steps can be repeated as needed until the drainage rate slows considerably or stops. The drain should then be removed.

Most patients will be free of their drain after 24 hours.

Exceptions:

- If hypotensive prior to the procedure or after drainage resumption they should be drained more slowly, at a rate of no more than 1 litre per hour, initially, and up to 3 litres in the first 6 hours, and in subsequent 6 hour spells. BP should be recorded prior to resumption of drainage spells.
When drainage rate slows considerably or stops the drain should be removed.
- ◆ If the patient feels dizzy during drainage the drain should be clamped and pulse and BP recorded. If hypotensive the rate of drainage should slow, as above, ■.
When drainage rate slows considerably or stops the drain should be removed.

Most patients will tolerate the procedure well. The patients most vulnerable to symptomatic hypotension (hypovolaemia) are those with ascites arising secondary to portal hypertension. In patients with massive liver metastases, hepatocellular carcinoma +/- cirrhosis, or venous outflow obstruction the risk of hypovolaemia is higher. Hence the importance of asking the patient to report symptoms of dizziness, and BP monitoring- of all patients, but especially these patients!

The patient may well need prn medication for breakthrough abdominal ache or soreness at the drain site and prn medication should always be available.

Escalating pain, not controlled by prn medication, requires medical review².

Aftercare:

13. If there is minimal leakage from the puncture site after the drain is removed, apply a dressing pad. If there is significant leakage, apply a stoma bag over the site until it becomes minimal and then apply a dressing pad. (Sometimes patients need a stoma pack over the site for several days).
14. Patients often feel 'washed out' and weak during and in the last few hours after the procedure. Usually rest and reassurance (and analgesia if there is discomfort) are sufficient. If there is greater cause for concern, check blood pressure, assess need for intravenous fluids and consider other complications of paracentesis, but remember that it may not always be appropriate to resuscitate or treat complications.
15. Analgesic requirement after drainage may well be different from that needed pre drainage. Sometimes removal of the fluid will lead to increased baseline comfort and a need to reduce analgesia. Sometimes it will lead to increased baseline discomfort and a need to increase regular analgesia. The patient's comfort needs to be revisited, whether in the hospital/hospice or at home over the next few days, with availability, in whatever setting, of prn medication.

References:

Stephenson J, Gilbert J. The development of clinical guidelines on paracentesis for ascites related to malignancy. *Pal Med* 2002; 16: 2113-218

Campbell C. Controlling malignant ascites. *EJP*, 2001; 8(5): 187-190

² Rare adverse effects include:

- hypovolaemia (0-3%),
- haemorrhage (1-2% risk of serious haemorrhage into the peritoneal cavity or abdominal wall)
- pulmonary emboli, occasionally reported and arising from dislodged thromboses in large intra-abdominal veins
- peritonitis, which may arise from intestinal perforation or prolonged placement of the catheter