5. GUIDELINES FOR THE MANAGEMENT OF MALIGNANT ASCITES IN PALLIATIVE CARE

5.1 GENERAL PRINCIPLES

- Ascites is the accumulation of fluid in the peritoneal cavity. 1, 2
- Malignancy is the underlying cause in approximately 10% of all cases of ascites. About 15-50% of patients with malignancy will develop ascites. 3
- Cancers commonly associated with the development of ascites include breast, colorectal, endometrial, gastric, ovarian and pancreatic. 3
- Non-malignant causes of ascites include liver disease, congestive cardiac failure, nephrotic syndrome, pancreatitis, tuberculosis and bowel perforation. 2, 3
- Several different pathophysiological mechanisms are implicated in the development of malignant ascites. These include:
  - peritoneal lymphatic obstruction.
  - hypoalbuminaemia leading to a reduction in oncotic pressure.
  - increased capillary permeability.
  - increased portal vein pressure with activation of the renin-angiotensin pathway.
- Symptoms resulting from an accumulation of ascitic fluid include abdominal bloating/swelling, pain, nausea and vomiting, anorexia, fatigue, peripheral oedema, heartburn and dyspnoea. 5
- Malignant ascites carries a poor prognosis. Management should be aimed at maximising patient comfort and quality of life. 7
- Management options for malignant ascites include diuretic therapy, therapeutic paracentesis and peritoneovenous shunts. 8 Oncological interventions may be helpful in ovarian carcinoma and lymphoma. Hormonal therapy may be useful in hormone sensitive malignancies such as some breast cancers. 2, 7
- There is no evidence that any particular therapeutic option is more effective than another. 9

5.2 GUIDELINES

5.2.1 Diuretic therapy

- Diuretic therapy should be considered in every patient with malignant ascites particularly those with a prognosis of greater than 4 weeks. Urea and electrolytes should be checked before starting treatment and during treatment as appropriate. 8, 10 [Level 4]

  Spironolactone

- Spironolactone is the diuretic of choice in malignant ascites. 11 It works by competitively blocking aldosterone leading to an increase in sodium excretion. It is a potassium sparing diuretic. Patients with raised plasma concentrations of renin and massive liver metastases are most likely to respond. 10, 11, 12 [Level 2]
- Dose: 100mg-400mg daily. For elderly patients consider a lower starting dose and titrate according to individual response. It may take 3-5 days to get a response. The dose should be increased every 3-7 days in 50mg-100mg increments. The maximum dose is 400mg/day. However, many patients will be too frail to tolerate such large doses. 10, 11, 12 [Level 2]
- Side effects include nausea, headache, lethargy, delirium, hyperkalaemia, skin rashes, diarrhoea and hyponatraemia. 10, 11, 12 [Level 2]

**Furosemide**

- Furosemide is a loop diuretic and should be added if there is an inadequate response to spironolactone. Dose: 40mg-80mg/day. Side effects include electrolyte imbalance, hypotension and gastrointestinal disturbance. 10, 12 [Level 3]

5.2.2 **Therapeutic paracentesis** [Level 3]

- Paracentesis is the removal of fluid from the peritoneum via a catheter / venflon inserted through the abdominal wall. 13
- Paracentesis is a useful procedure for the control of acute symptoms, or in those patients who are resistant to diuretics. It provides relief in about 90% of cases. 13
- Paracentesis can be performed in a variety of settings and should ideally be within 48 hours of presentation.
- Diagnostic imaging is not necessary prior to paracentesis if clinical examination demonstrates the presence of a large volume of ascitic fluid. Ultrasound evaluation may be required prior to paracentesis if there is diagnostic uncertainty or suspected loculation of fluid. Loculation is especially common in ovarian carcinoma. 6
- Consider checking a full blood count and clotting screen prior to paracentesis if the patient is bleeding, has liver metastases, is jaundiced, or is on anticoagulant therapy. Biochemistry should be checked if there is a history of renal impairment. 16
- Before undertaking paracentesis, it is important to gain informed consent from the patient and document this in the case notes. 16 [Level 4]
- Practice varies as to the volume of ascitic fluid removed and the rate of fluid removal.
- Clamping of the drain is often not required. Fluid should be drained as quickly as is comfortable for the patient, limited only by their clinical condition. 17, 18
- The bladder should be emptied before paracentesis. Analgesia should be available before, during, and following the procedure. 16
- Ascitic drains should be removed when no longer in use due to the risk of infection. 19
- There is no evidence to support the use of albumin infusions either during or after paracentesis for malignant ascites. Use of intravenous fluids is not recommended. 14, 19
- It may be necessary to repeat the paracentesis for ongoing symptom control. 16
- Absolute contraindications to paracentesis include disseminated intravascular coagulation and clinical evidence of fibrinolysis. Relative contraindications include severe bowel distension and previous extensive abdominal/ pelvic surgery. 20
- Possible complications include secondary peritonitis, pulmonary emboli and hypotension. 7
5.2.3 Peritoneovenous shunts

- Peritoneovenous shunts drain ascitic fluid from the peritoneal space into the internal jugular vein. Shunts should be considered if recurrent ascites is the main clinical problem and the prognosis is measured in months rather than weeks. [Level 3]

- Shunts may limit the need for diuretics and paracentesis. The two main types of shunts are Denver and Le Veen. [Level 4]

- Shunts can be inserted under local anaesthetic. The complication rate following shunt insertion is high and includes shunt malfunction, leakage, sepsis, gastrointestinal bleeding, thromboembolism and pulmonary oedema. [Level 3]

5.2.4 Octreotide

- This is a synthetic somatostatin analogue which acts by reducing the volume of fluid secretion by the intestinal mucosa and by increasing the rate of resorption. It can be useful in chylos ascites. The dose is 200microgrammes-600microgrammes via a continuous subcutaneous infusion over 24 hours. [Level 4]

5.2.5 Cytotoxic Therapy

- Systemic therapy may be of benefit if the primary disease is known to be responsive to cytotoxics e.g. breast, ovary. Intrapertitoneal therapy has been shown to be of benefit in some tumour types but its use is limited to small volume / micrometastatic intraperitoneal disease. [Level 3]

5.3 STANDARDS

1. Patients who have acute symptoms attributable to ascites should have paracentesis within 48 hours of presentation. [Grade D]

2. All patients should have baseline urea and electrolytes checked prior to commencing and whilst taking diuretic therapy. [Grade D]

3. Intravenous fluids/ albumin should not be used routinely during or following therapeutic paracentesis but may be appropriate in severe hypovolaemia. [Grade D]

4. Abdominal drains should be removed within 24 hours of insertion if there is limited drainage, unless there is a clinical indication for leaving them in situ for a longer period of time. [Grade C]

5.4 REFERENCES


5. Williams JW, Simel DL. Does this patient have ascites? How to divide fluid within the abdomen. JAMA 1992; 267: 2645-2648.
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