

ASCITES

Rationale

This guideline is adapted for inter-professional primary care providers working in various settings in VIHA and any other clinical practice setting in which a user may see the guidelines as applicable.

Scope

This guideline provides recommendations for the assessment and symptom management of adult patients (age 19 years and older) living with advanced life threatening illness and experiencing the symptom of ascites. This guideline does not address disease specific approaches in the management of ascites. Ascites may develop in 15% to 50% of patients with malignancies (1, 2) but most cases (80%) of ascites will be related to cirrhosis.(3)

Definition of Terms

Ascites is the accumulation of fluid within the peritoneal cavity.(2)

Standard of Care

1. Assessment
2. Diagnosis
3. Education
4. Treatment: Non-pharmacological

Recommendation 1 Assessment of Ascites

Ongoing comprehensive assessment is the foundation of effective management of ascites, including interview, physical assessment, medication review, medical and surgical review, psychosocial review, review of physical environment and appropriate diagnostics. Assessment must determine the cause, effectiveness and impact on quality of life for the patient and their family (*see Table 1*).

*Table 1: Ascites Assessment using Acronym O, P, Q, R, S, T, U and V**

| | |
|------------------------------------|--|
| O Onset | When did it begin? How often does it occur? |
| P Provoking / Palliating | What brought it on? What makes it better? What makes it worse? |

| | |
|--|--|
| Q Quality | What does it feel like? Can you describe it? Have you noticed weight gain? |
| R Region / Radiation | Where is the pressure? Is it spreading? |
| S Severity | What is the intensity of this symptom (On a scale of 0 to 10, with 0 being none and 10 being worst possible)? Right Now? At Best? At Worst? On Average? Are there any other symptom(s) that accompany this symptom - nausea, loss of appetite, pain? |
| T Treatment | What medications and treatments are you currently using? How effective are these? Do you have any side effects from the medications and treatments? What medications and treatments have you used in the past? |
| U Understanding / Impact on You | What do you believe is causing this symptom? How is this symptom affecting you and / or your family? |
| V Values | What is your goal for this symptom? What is your comfort goal or acceptable level for this symptom (On a scale of 0 to 10 with 0 being none and 10 being worst possible)? Are there any other views or feelings about this symptom that are important to you or your family? |

- **Also include a Physical Assessment (as appropriate for symptom)**

Diagnostic Tests:

- Using abdominal radiography, ascites may demonstrate a ‘ground glass appearance’.⁽¹⁾
- Ultrasound or CT scan may be required to demonstrate small volumes of free peritoneal fluid.⁽¹⁾
- Diagnostic paracentesis may be required to elucidate the type of ascites and should be done on newly diagnosed cases of ascites.⁽¹⁾

Clinical Signs and Symptoms:

- Abdominal pressure, pain.^(1, 3, 4)
- Anorexia, early satiety, nausea, vomiting.⁽¹⁻⁴⁾
- Dyspnea and/or orthopnea.⁽¹⁻³⁾
- Increased abdominal girth.⁽²⁾
- Peripheral edema.^(1, 2)
- Reduced mobility.⁽⁴⁾

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- Reflux esophagitis.⁽¹⁻³⁾
- Shifting dullness to percussion and a fluid thrill.^(2,5)

Recommendation 2

Diagnosis

Management should include treating reversible causes where possible and desirable according to the goals of care. The most significant intervention in the management of ascites is identifying underlying cause(s) and treating as appropriate (*See Causes of Ascites*). While underlying cause(s) may be evident, treatment may not be indicated, depending on the stage of the disease.

Identifying the underlying etiology of ascites is essential in determining the interventions required.

Causes of ascites:^(1, 3)

- Cirrhosis – is the predominant cause in 80% of cases. It presents as transudative ascites (ascitic fluid protein concentration of less than 2.5g/dl).
- Malignancy – causes 10% of cases. They are mostly (80%) epithelial related ovarian, uterus, breast, colon, gastric and pancreatic however the remaining 20% have tumours of primary unknown origin. The fluid produced in malignancy is exudative (ascitic fluid protein concentration of greater than 2.5g/dl).
- Heart failure – is responsible for 3% of cases. The fluid produced is transudative.
- Renal related – 3%, tuberculosis – 2%, pancreatitis – 2% and miscellaneous – 1% or absent.^(5, 9)

Types of ascites:⁽⁶⁾

- Raised hydrostatic pressure – caused by cirrhosis, congestive heart failure, inferior vena cava obstruction and hepatic vein occlusion.
- Decreased osmotic pressure – caused by protein depletion (nephrotic syndrome, protein-losing enteropathy), reduced protein intake (malnutrition) or reduced protein production (cirrhosis).
- Fluid production exceeding resorptive capacity – caused by infection or neoplasms.
- Chylous – due to obstruction and leakage of the lymphatics draining the gut.

Recommendation 3

Education

Education of patient and their family should comprise discussion of treatment methods of ascites and the value of paracentesis when the patient becomes symptomatic.⁽³⁾

Recommendation 4

Treatment: Non-pharmacological

- Observation is appropriate when the condition is asymptomatic.⁽³⁾ Observation would include measuring the abdominal girth at a marked site each week⁽⁶⁾ as well as appropriately scheduled weight measurement.
- Paracentesis is the draining of ascitic fluid via a catheter inserted through the abdominal wall. This may be achieved under ultrasound guidance or in an outpatient setting for quick relief of symptoms. Generally, upwards of 5 litres of fluid may be removed with little risk of hypotension or hypovolemic shock when patient screening is applied.⁽⁶⁾ Intravenous hydration should be considered if the patient is hypotensive, dehydrated or known to have severe renal impairment and paracentesis is still indicated.⁽⁴⁾ If there is leakage over the paracentesis site an ostomy bag can be applied.^(2, 6) Single or repeated paracentesis in patients with advanced cancer does not significantly lower serum protein.⁽²⁾
- Peritoneal catheters (smaller bore catheter) may be useful when ascites is rapidly accumulating and requiring frequent paracentesis for symptom control. This significantly exposes the patient to the risk of peritonitis and is usually reserved for patients in the terminal phase of their illness, with a prognosis of weeks.^(3, 5, 7, 8)
- Radiation therapy and chemotherapy may be useful in cases where a meaningful response to tumour growth may be expected, such as lymphoma.⁽¹⁾
- Salt restriction plays an important role where fluid is transudative, but may also provide relief in patients with cancer and hepatic metastases.^(1, 3)
- A low fat diet and increase in medium-chain triglyceride intake may be useful in patients with chylous ascites.⁽¹⁾

Recommendation 5

Pharmacological

Diuretics:

- Diuretics should be considered in all patients, but has to be evaluated individually. Patients with malignant ascites due to massive hepatic metastases seem to respond better to diuretics than those with malignant ascites due to peritoneal carcinomatosis or chylous ascites.⁽⁴⁾
- Diuretics may help with portal hypertension (hepatic metastases, heart failure and cirrhosis)⁽³⁾ and should be tried in most patients after their first abdominal paracentesis as approximately one-third of patients are shown to benefit.⁽⁹⁾
- Goal of diuretic therapy would be to achieve a weight loss of 0.5 to 1 kg per day.⁽⁶⁾
- Spironolactone 100 mg daily⁽²⁾ titrated slowly to 400 mg daily – titrated to remove enough fluid for comfort.^(1, 3, 6)

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- Furosemide 40 to 120 mg daily may be added to spironolactone to improve the effect (2, 3, 6) and prevent hyperkalemia. Furosemide given by continuous infusion is reported to produce significant diuresis and marked relief of ascites.(2)
- When utilizing diuretics monitor electrolytes, renal function, drug interactions and blood pressure weekly.(6)

Octreotide:

- Octreotide in doses of 200 to 600 mcg S.C. per day has shown promise in cases of ascites refractory to paracentesis.(2, 10) Dosing frequency should be in two to three divided doses per day.

References

Information was compiled using the CINAHL, Medline (1996 to April 2006) and Cochrane DSR, ACP Journal Club, DARE and CCTR databases, limiting to reviews/systematic reviews, clinical trials, case studies and guidelines / protocols using ascites terms in conjunction with palliative/hospice/end of life/dying. Palliative care textbooks mentioned in generated articles were hand searched. Articles not written in English were excluded.

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