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Review Article

Ascites: A Review

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ABSTRACT
Ascites is a gastroenterological term for an accumulation of fluid in the peritoneal cavity that exceeds 25 mL .Although most commonly due to cirrhosis, severe liver disease or metastatic cancer, its presence can be a sign of other significant medical problems, such as Budd- Chiari syndrome.
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Ascites refers to collection of free fluid within the peritoneal cavity. The greek word askitos means bag or sac.
Aetiology:-
A) Ascites with anasarca
Congestive Cardiac Failure
- Nephrotic syndrome
- Pericardial effusion
- Constrictive pericarditis
- Myxoedema
- Filariasis

B) Ascites without anasarca
- Liver cirrhosis
- Peritonitis
- Portal vein thrombosis
- Lymphoma
- Haemoperitoneum following trauma
- Hepatic vein thrombosis

Classification:
Ascites exist in 3 grades-
Grade 1- mild,only visible on ultrasound and C.T scan
Grade 2-detectable with flank bulging and shifting dullness
Grade 3- directly visible, confirmed with fluid wave or thrill test
Clinical features:-
Symptoms-
- Progressive swelling of abdomen with weight gain.
- Aching pain all over the abdomen due to stretching
- Dyspnoea and even Orthopnoea(in large collection of fliud)
- Swelling of lower limbs (due to CCF or nephrotic syndrome or functional IVC obstruction)
- Oliguria
- Paraesthesia in the distribution of lateral femoral cutaneous nerve (neuralgia paraesthesia)

Signs-
a) General Survey
- The patient may be in propped-up position due to dyspnoea
- Bipedal pitting oedema
- Neck veins may be engorged (due to hypervolaemia)
- Obvious swelli8ng of abdomen

b) Abdomen
- Swelling of abdomen and there is fullness in the flanks. The **skin looks shiny**
- Divarication of recti (if the patient tries to get up from the supine position against resistance, the linea alba bulges between the two recti) may be present. Subcostal angle is wide and lower ribs are pushed upward and outward.There is prominence of hypogastrium in erect posture
- Umbilicus – flushed or everted with transverse slit
- Fluid thrill- positive
- Shifting dullness – positive

- Respiratory system
- Basal collapse – diminished movement, impaired note on percussion, diminished vesicular breath sound and crepitations may be heard in the lower part of chest on both sides.
- Hydrothorax may be bilateral
- CVS
- Apex beat- deviated upward and outward
- There may be diffuse pulsation over the precordium

e) Genitourinary system

- Scrotal oedema or hydrocele may be evident as secondary effects of ascites.

f) Percussion note in ascites is midline, tympanitic, flanks dull.

Pathophysiology

Ascitic fluid can accumulate as a transudate or an exudate. Amounts of up to 35 liters are possible.

Roughly, transudates are a result of increased pressure in the hepatic portal vein (>8 mmHg, usually around 20 mmHg, e.g. due to cirrhosis, while exudates are actively secreted fluid due to inflammation or malignancy. As a result, exudates are high in protein, high in lactate dehydrogenase, have a low pH (<7.30), a low glucose level, and more white blood cells. Transudates have low protein (<30 g/L), low LDH, high pH, normal glucose, and fewer than 1 white cell per 1000 mm^3. Clinically, the most useful measure is the difference between ascitic and serum albumin concentrations. A difference of less than 1 g/dl (10 g/L) implies an exudate.

Portal hypertension plays an important role in the production of ascites by raising capillary hydrostatic pressure within the splanchnic bed.

Regardless of the cause, sequestration of fluid within the abdomen leads to additional fluid retention by the kidneys due to stimulatory effect on blood pressure hormones, notably aldosterone. The sympathetic nervous system is also activated, and renin production is increased due to decreased perfusion of the kidney. Extreme disruption of the renal blood flow can lead to hepatorenal syndrome. Other complications of ascites include spontaneous bacterial peritonitis (SBP), due to decreased antibacterial factors in the ascitic fluid such as complement.

Important past history in a patient with ascites are jotted below-

- Alcoholism
- Jaundice
- Haematemesis or malaena
- Alteration in bowel habit
- Tuberculosis
- Past H/O respiratory distress
- Pain abdomen(acute pancreatitis)
- Weight loss

Important physical findings for aetiological diagnosis in ascites-

- Virchow's gland- Gastro intestinal malignancy
- Engorged and pulsatile neck vein- CCF, pericardial effusion
- Prominent abdominal veins- portal hypertension
- Sister Marie Joseph's nodule around umbilicus- intra abdominal malignancy
- Non pitting oedema in feet- Myxoedema
- Spleenomegaly
- Heapatomegaly

Investigations:-

- USG of the abdomen can detect ascites or CT scan of abdomen does. USG can detect as little as 30ml of ascitic fluid.
- Blood R/E
- Urine Examination
- Stool for occult blood
- Liver Function Tests
- Plasma protiens
- X-Ray abdomen usually shows ground-glass opacity that is diffuse abdominal haziness with loss of psoas margins in ascites.

Management:-

- Bed rest-which mobilises the ascitic fluid and helps in diuresis as renal perfusion increases in recumbency
- Diet- salt restricted diet is given.
- Water intake is restricted to 1-1.5 ltr daily. Water restriction is needed if serum sodium levels drop below 130mmol
- Salt free albumin infusion
- Paracentesis abdominis

Differential Diagnosis:-

- Ovarian cyst
- Intestinal obstruction

Complications:-

- Spontaneous bacterial peritonitis
- Hepatorenal syndrome
- Thrombosis

Homoeopathic Remedies for Ascites are jotted below:-

- Acetic acid
- Aconitum Napellus
- Apis Mellifica
- Antimonium Crudum
- Apocynum Canabinum
- Belladona
- Cantharides
- Causticum

- Chelidonium Majus
- Digitalis Purpurea

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