University of Baghdad
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Title: Amoebiasis

Grade: third

Module: infectious

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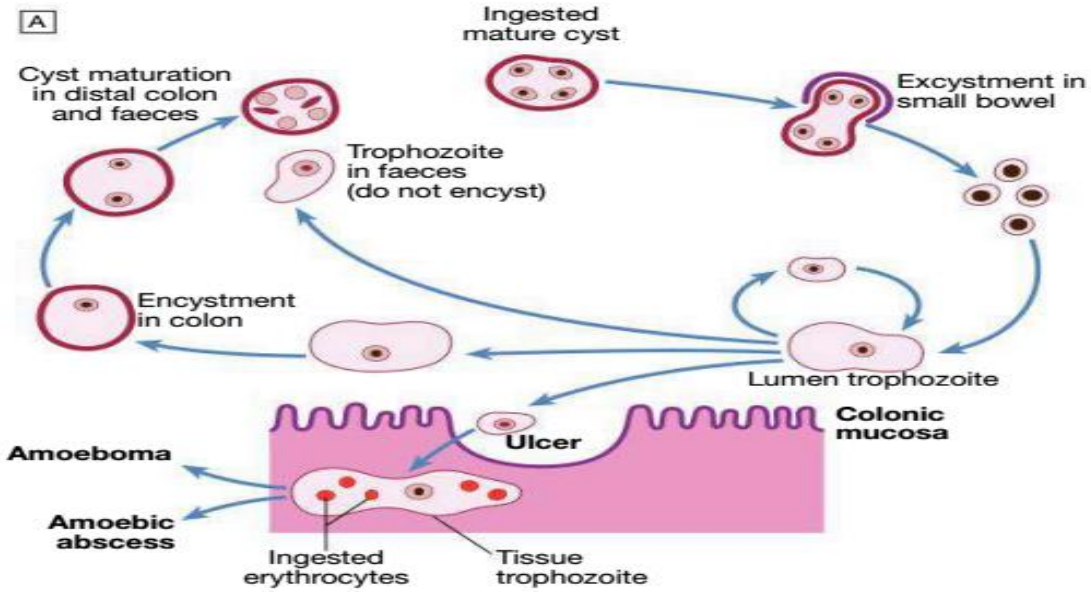
Amoebiasis

Amoebiasis is caused by **Entamoeba histolytica**, which is spread between humans by its cysts. It is one of the leading parasitic causes of morbidity and mortality in the tropics and is occasionally acquired in non-tropical countries.

Two non-pathogenic Entamoeba species (E. dispar and E. moshkovskii) are morphologically identical to E. histolytica

only E. histolytica causes amoebic dysentery or liver abscess

Life cycle of amoebiasis



Pathology

Cysts of E. histolytica are ingested in water or uncooked foods contaminated by human faeces.Infection may also be acquired through anal/oral sexual practices. Trophozoites emerge from the cysts in the small bowel and enter the large bowel. The parasite invades the mucous membrane of the large bowel, producing lesions that are maximal in the caecum but extend to the anal canal.

These are flask-shaped ulcers, varying greatly in size and surrounded by healthy mucosa. A rare complication is amoeboma .

a localised granuloma that may present as a palpable abdominal mass (usually in the right iliac fossa), a rectal mass (rarely) or a filling defect on colonic radiography. This has to be distinguished from other causes of colonic mass (e.g. cancer). Amoebic ulcers may cause severe haemorrhage but rarely perforate the bowel wall.

Amoebic trophozoites can emerge from the vegetative cyst from the bowel and be carried to the liver in a portal venule. They can multiply rapidly and destroy the liver parenchyma, causing an abscess
The liquid contents at first have a characteristic pinkish colour, which may later change to chocolate-brown (said to resemble anchovy sauce)

Cutaneous amoebiasis, though rare, causes progressive genital, perianal or peri-abdominal surgical wound ulceration.

Clinical features

Intestinal amoebiasis

amoebic dysentery

Most amoebic infections are asymptomatic. The incubation period of amoebiasis ranges from **2 weeks to many years** .

followed by a chronic course with abdominal pains and two or more unformed stools a day. Offensive diarrhoea, alternating with constipation, and blood or mucus in the stool are common. There may be abdominal pain, especially in the right lower quadrant (which may mimic acute appendicitis). A dysenteric presentation with passage of blood, simulating bacillary dysentery or ulcerative colitis, occurs particularly in older people .

Amoebic liver abscess

The abscess is usually found in the right hepatic lobe. There may not be associated diarrhoea. Early symptoms may be only local discomfort and malaise; later, a swinging temperature and sweating may develop, usually without marked systemic symptoms or signs. An enlarged, tender liver, cough and pain in the right shoulder are characteristic but symptoms may remain vague and signs minimal. A large abscess may penetrate the diaphragm, rupturing into the lung, and may be coughed up through a hepatobronchial fistula. Rupture into the pleural or peritoneal cavity, or rupture of a left lobe abscess in the pericardial sac, is less common but more serious

Investigations

Microscopic examination of the stool

*Microscopic examination of the stool and exudate can reveal motile trophozoites containing red blood cells. Trophozoite motility decreases rapidly as the stool preparation cools. Several stools may need to be examined in chronic amoebiasis before cysts are found.

*Sigmoidoscopy may reveal typical flask-shaped ulcers, which should be scraped and examined immediately for E. histolytica. In endemic areas, one-third of the population are symptomless passers of amoebic cysts.

An amoebic abscess of the liver is suspected on clinical grounds; there is often a neutrophil leucocytosis and a raised right hemidiaphragm on chest X-ray. Confirmation is by ultrasonic scanning. Aspirated pus from an amoebic abscess has the characteristic chocolate-brown appearance but rarely contains free amoebae

Serum antibodies are detectable by immunofluorescence in over 95% of patients with hepatic amoebiasis and intestinal amoeboma, but in only about 60% of dysenteric amoebiasis. DNA detection by PCR or by loop-mediated isothermal amplification (LAMP) assay have been shown to be useful in diagnosis of E. histolytica infections but are not generally available

Management

Intestinal and early hepatic amoebiasis responds quickly to oral metronidazole (800mg 3 times daily for 5–10 days) or other long-acting nitroimidazoles like tinidazole or ornidazole (both in doses of 2g daily for 3 days).

Nitazoxanide (500mg twice daily for 3 days) is an alternative drug. Either diloxanide furoate or paromomycin, in doses of 500mg orally 3 times daily for 10 days after treatment, should be given to eliminate luminal cysts.

If a liver abscess is large or threatens to burst, or if the response to chemotherapy is not prompt, aspiration is required and is repeated if necessary. Rupture of an abscess into the pleural cavity, pericardial sac or peritoneal cavity necessitates immediate aspiration or surgical drainage. Small serous effusions resolve without drainage.

Prevention

Personal precautions against contracting amoebiasis include not eating fresh, uncooked vegetables or drinking unclean water

THANK YOU