Histopath
Specialist Pathologists

Blastocystis hominis

Introduction

Blastocystis is a protozoan which infects humans and some other animals. Knowledge of the life cycle is incomplete. Spread between humans is most likely faecal-oral.

Symptoms of infection

Whether or not Blastocystis causes infection in humans is a point of active debate. This is because of the common occurrence of the organism in both symptomatic and asymptomatic patients. At least 20% of patients in which the organism is found are asymptomatic. When symptomatic, the usual spectrum of symptoms includes

Watery Diarrhoea
Abdominal Pain
Perianal Pruritis
Excessive Flatulence

Some reports suggest that there is a correlation between the number of organism identified in smears and the occurrence of symptoms, with heavy infections linked to diarrhoea and abdominal discomfort.

No definition of 'heavy infection', however, is currently available. The problem with this hypothesis is the 'variable shedding' of the organisms and while in one period, there may be low numbers identified, a week later there may be high numbers.

Blastocystis hominis should be considered to be pathogenic if the patient has persistent symptoms for more than three days and it is the only organism detected in repeat faecal specimens, or if it is the only organism repeatedly identified from an immunocompromised patient.

Diagnosis

The diagnosis is based on the identification of the cyst-like stage in faeces. Permanent stained smears made from fixed specimens offer greater sensitivity compared to wet mount preparations.

Like all testing for parasites, the greater the number of collections, the greater the sensitivity of the testing. At least three stool collections are recommended, preferably on different days. The stool specimens should be placed immediately into SAF fixative and kept at room temperature until tested.

Morphology

The organism appears as spherical-oval shaped cyst like structures. Size varies widely but is usually 8-10um. Typically, there is a central body or 'vacuole' surrounded by a thin rim of cytoplasm containing up to six nuclei.

Treatment

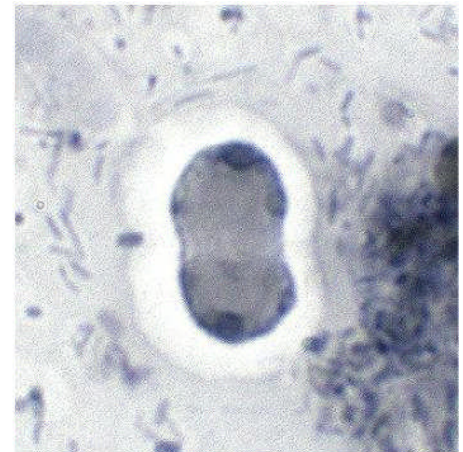
Treatment should be considered in all cases, but may not be warranted in asymptomatic patients.

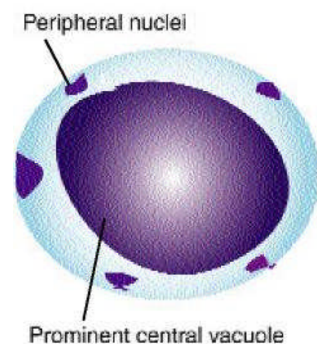
Metronidazole is the first line of treatment, however resistant organisms are now present in Australia and these may be difficult to clear with treatment.

Re-testing after treatment is recommended.

Standard dosage of Metronidazole 400-750mg of Metronidazole three times aday for 7-10 days

Alternative treatments include,
Iodoquinol 650mg tds x 20d (Haresh et al)
Trimethoprim-sulfamethoxazole (Ok UZ et al) Furazolidine 8mg/kg/day (max 400mgs/day) 7-10 days
Combination treatments may be required.





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