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## Cryptosporidiosis

Cryptosporidiosis or 'Crypto' for short, is caused by the parasite *Cryptosporidium parvum*. It usually infects the gastrointestinal tract, and in particular the small bowel, but can on occasions affect the liver and has also been known to affect the lungs, although this is not very common. Anyone can be infected with cryptosporidiosis, which is sporadically found in water supplies. If your CD4 count is below 200, infection can be severe, causing chronic (long-term) illness.

### Symptoms

Symptoms can appear from anywhere between 5 days and two weeks after infection and may include the following:

- Severe diarrhoea, often watery
- Abdominal pains and cramps
- Vomiting
- Loss of appetite
- Weight loss

Due to a combination of these symptoms poor nutrition leads to a loss of nutrients and dehydration.

### Diagnosis

Cryptosporidiosis is normally diagnosed by testing a stool sample, and looking for the organisms that cause the infection. Sometimes a rectal biopsy is performed; a small tissue sample is taken from the lining of the rectum. This procedure is very simple and painless, causing only a little discomfort.

### Treatment

There are no approved treatments for cryptosporidiosis, although there have been many trials using antibiotics and immune boosters. There is other research being carried out into suitable drugs, and in the USA a new drug called *nitazoxanide* (NTZ) has recently been approved for an expanded access programme, and has shown promising results.

In healthy people cryptosporidiosis usually clears up without treatment in about 14 to 28 days, and in people with HIV whose CD4 count is above 300, the infection clears of its own accord. There are many cases of cryptosporidiosis that have cleared up after starting HAART (Highly Active Anti-Retroviral Therapy), so starting (or switching if your HAART is failing) to a strong combination of anti-retroviral drugs is the only option.

There are however treatments available to relieve the *symptoms* of cryptosporidiosis, such as Imodium (loperamide) or codeine for the diarrhoea, anti-emetics (anti-sickness drugs) for the vomiting, as well as food/fluid replacements to help combat the loss of appetite and weight loss. In the short term fluid and electrolyte replacement is even more important than food.

Pain-relieving agents and anti-spasmodic agents may be used for the colic which could also improve the diarrhoea.

## Prevention

A large number of the HIV population are already infected with the 'crypto' parasite, but it can lie dormant and only cause a problem when their CD4 cell drops significantly. The main routes of transmission of cryptosporidiosis to humans are the following:

- swallowing contaminated water or food
- hand to mouth contact from a contaminated surface
- contact with faeces of an infected person (during oral-anal sex)

To avoid infection the following guidelines should be observed:

- Boil all water, tap and bottled, to ensure any cryptosporidia present are killed, or use a recommended water filter (see Cryptosporidium and Water Safety fact sheet for further details) Boiling a kettle is **not adequate**, as water should be boiled for at least one minute. The treated water should then be kept in the 'fridge and ideally used within 12 - 24 hours or otherwise other bacteria will grow, and if boiling, place into boiling water not in the pan of cold water.
- Avoid farm animals and their excreta
- Use gardening gloves when handling garden manure and wash hands thoroughly afterwards
- Ensure all vegetables, but particularly organic, are thoroughly cleaned before eating and if boiling, place into boiling water not in the pan of cold water
- Try to avoid unpasteurised milk and dairy products
- People with diarrhoea due to 'crypto' should not share their toilet facilities with others until the diarrhoea has cleared up
- Thorough hand washing after using the bathroom and during food preparation are essential
- Safer sex practices should be observed - the use of a dental dam during oral-anal sex