

## The Ciliates

The ciliates belong to the family Ciliophora. They possess simple cilia or compound ciliary organelles, 2 types of nuclei and a large contractile vacuole. The only member of the ciliate family to cause human disease is *Balantidium coli*.

### *Balantidium coli*

#### Introduction.

*Balantidium coli* is widely distributed in warmer climates which is where human infections most commonly occur. The organisms inhabit the large intestine, caecum and terminal ileum where they feed on bacteria.

#### Morphology of cyst

The cyst is spherical or ellipsoid and measures from 50 - 70µm. It contains 1 macro and 1 micronucleus. The cilia are present in young cysts and may be seen slowly rotating, but after prolonged encystment, the cilia disappear.

#### Morphology of trophozoite

Trophozoites of *B. coli* measures approximately 50-100µm in length but have been known to attain lengths of up to 200µm. It is oval in shape and covered in short cilia. A funnel shaped cytosome can be seen near the anterior end. In an unstained preparation, the organisms are easily recognised because of their size and rapid revolving rotation. In a stained preparation, the characteristic macro and micronuclei may be observed.

#### Clinical Disease

Severe *B. coli* infections may resemble amoebiasis. Symptoms include diarrhoea, nausea, vomiting and anorexia. The diarrhoea may persist for long periods of time resulting in acute fluid loss. *B. coli* also has the potential to penetrate the mucosa resulting in ulceration. Extra-intestinal disease has also been reported but rarely.

#### Laboratory Diagnosis

Wet preparations of fresh and concentrated stool preparations reveal the characteristic cysts and trophozoites. They are easier to identify in wet preparations than permanently stained faecal smears.