

Genus:Trichomonas

This genus contains three species which occur in human :

\* T. tenax

\* T. hominis

\* T. vaginalis

These flagellates exist only in trophozoite stage ,cyst stage is absent, they have four anterior flagella and one lateral flagellum which is attach to the surface of the parasite to form undulating membrane. The undulating membrane is supported at the base by a rod-like structur known as costa. The axostyle runs down the middle of the body . A rounded nucleus is located in the anterior region.

A different species of Trichomonas inhabits specific site or the habitat for which they have adapted. That means Trichomonas in one site will not spread to a different site ( from the mouth will not survive the digestive tract, and vice-versa. )

**Trichomonas hominis** (intestinal flagellates)

This flagellate is of cosmopolitan distribution. It is thought to be non-pathogenic , it is often identified in human diarrheic stools. Because of the fecal-oral transmission rout, infection with T. hominis is more

frequently reported in children than in adults. It carries 5 flagellae undulating membrane going over the full length of its body.

**Trichomonas tenax:** (Oral flagellates ) *Trichomonas tenax* is a protozoan flagellate which is a parasite of the mouth ( living in the tartar around the teeth ), tonsils, in the necrotic mucosal cells in the gingival margins of gums and in the pockets in tonsillar follicle .It is transmitted by kissing, salivary droplets and vomits. Diagnosis can be made by demonstration of *T. tenax* in the tartar by microscopy. No treatment is indicated. Better oral hygiene will rapidly eliminate the infection.

**Trichomonas vaginalis** (urinogenital flagellates) :Is the causative agent of trichomoniasis. It is the most common pathogenic protozoan infection of humans, Infection rates between men and women are similar with women being symptomatic, while infections in men are usually asymptomatic. More than 160 million people worldwide are annually infected by this protozoan parasite.

**T. vaginalis** is obligate parasite which cannot live without close association with the vaginal, urethral or prostatic tissues **Trichomoniasis**, a sexually transmitted infection of the **urogenital tract**, a common cause of **vaginitis** in women, while men with this infection display symptoms of urethritis , and 'soapy', greenish vaginal discharge and bad smell.

## **Complications**

Some of the complications of *T. vaginalis* in women include : preterm delivery, low birth weight, and increased mortality as well as predisposing to HIV infection, AIDS, and cervical cancer. *T. vaginalis* has also been reported in the urinary tract, fallopian tubes, a pelvis and can cause pneumonia, and bronchitis .

## **Diagnosis**

*T. vaginalis* can be diagnosed via :

- 1) **a wet mount test** (Saline microscopy), in which "corkscrew" motility was observed
- 2) **Culture tests** which are relatively cheap but the sensitivity is still somewhat low (60-70%)
- 3) new more sensitive tests including the nucleic acid amplification tests methods , such as rapid antigen testing (ELISA) test.

also *T. vaginalis* can be diagnosed by

- 4) PCR techniques, using primers specific for GENBANK/L23861,
- (3& 4) test are more costly than microscopy and culture and are highly sensitive (80-90%) .

## Treatment

Treatment for both pregnant and non-pregnant patients usually utilizes metronidazole (Flagyl), but with caution especially in early stages of pregnancy 2000 mg by mouth once. For 95-97% of cases, infection is resolved after one dose of metronidazole. Studies suggest that 4-5% of TV cases are resistant to metronidazole, which may account for some "repeat" cases .

Without treatment, trichomoniasis can persist for months to years in women, and is thought to typically "resolve itself" in men

### **Chilomastix mesnili.**

It is a common flagellate living as a harmless commensal in the caecum and colon of man , it has a cosmopolitan distribution but it is more prevalent in warm than in cool climate .It has well-defined trophozoite and cyst stages. The cyst stage is resistant to environmental pressure and is responsible for transmission of Chilomastix . Both cysts and trophozoites can be found in the feces (diagnostic stages). Infection occurs by the ingestion of cysts in contaminated water, food, or by the fecal-oral route (hands or vomites). In the large (and possibly small) intestine, excystation releases trophozoites. Animals may serve as a reservoir for Chilomastix.

### Diagnosis :

Chilomastix mesnili is identified through the detection of cysts and/or trophozoites in stool specimens, both concentrated wet mounts and permanent stained smears .

