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Tritrichomonas muris (formerly known as Trichomonas muris, Trichomonas cricetus, and Tritrichomonas cricetus)

Prevalence

- 29.6%-47.7% in large intestines of wild and laboratory mice, rats, and other rodents.

Significance

- No reports of research result interference
- Interest in using mice as model for human STD, T. vaginalis (long-term infection requires pretreatment of females with estrogen and intra-vaginal doses of Lactobacillus spp.)

Disease

- Related to more pathogenic T. vaginalis (humans) and T. foetus (cattle)
- Non-pathogenic flagellate of mice, rats, hamsters, and other rodents
- Exists as motile trophozoites within the host and replicate by binary fission
- Resides in the caecum and colon (have been reported in stomach and small intestine) – component of the normal fauna
- Minimal infectious dose of “pseudocysts” for mice is 5 (10 days prepatent period)
- Clinical signs:
    - No disease attributed to T. muris in rodents
    - Impressive numbers may be present in intestinal lumen with no lesions or disease

Transmission

- Easily established and transmitted between mice, rats, and hamsters
- Newborns are colonized by T. muris within a week after birth

Isolation and Diagnosis

- Examination of fresh or stained wet preparations of caecum and colon by light microscopy - pear- or teardrop shaped with three anterior flagella, a fourth posterior flagellum and an undulating membrane (“rolling” or “quivering” movement).

Prevention and Control

- Easily transmitted between mice – indicator of barrier maintenance breach
- Lack of cysts suggests that normal husbandry and management practices will eliminate organisms from environment
- Rederived and barrier-maintained mice are free from T. muris

Reading

- S.W. Barthold, S.M. Griffey, & D.H. Percy. Pathology of Laboratory Rodents and Rabbits (Fourth Edition), 2016

- J.G. Fox, S.W. Barthold, M.T. Davisson, C.E. Newcomer, F.W. Quimby, A.L. Smith. The Mouse in Biomedical Research (Second Edition), 2007
- D.G. Baker. Flynn's Parasites of Laboratory Animals (Second Edition), 2007