

# Klossiella muris

## Prevalence

- Rarely observed in laboratory mice
- Common in wild mice

## Significance

- Infected mice exhibit decreased oxygen consumption and endurance
- Impairs metabolic capabilities under certain environmental conditions

## Disease

- Gametogeny and sporogony in epithelial cells lining convoluted tubules (sporocysts appear as eosinophilic spherical structures in cytoplasm) – minimal inflammation
- Also observed in capillaries and arterioles of lungs, liver, spleen, and thymus

## Transmission

- Infection (**Renal Coccidiosis**) by ingestion of sporocytes with hematogenous spread to glomerular capillaries and asexual reproduction (multiple fission):
  - Asexually replicating forms rupture from glomeruli into Bowman's space and to renal tubules and invade tubular epithelium
  - Infective sporocytes released from ruptured host cells, into urinary bladder and into the environment

## Isolation and Diagnosis

- Identifying replicating forms histologically in the glomerular endothelium or renal tubular epithelium
- Routine hematoxylin-eosin staining
- Examining pellet of centrifuged urine

## Prevention and Control

- Coccidiostats reduce histological incidence
- Rederived, barrier-maintained mouse colonies will not be infected

## 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