

Mycoplasma pulmonis

Host species

- rat, mouse (rarely found in rabbits and guinea pigs)

Clinical disease and pathology

- commonly chronic respiratory infections in rats and mice
- acute bronchopneumonia in combination with other pneumotropic infections or extrinsic factors as found in poorly managed conventional colonies by NH₃, or nutritional deficiencies
- sneezing and peculiar noises, inflammation of eyes and (middle-) ears
- genital tract infections with drop in fertility

Morbidity and mortality

- both low under optimal husbandry conditions
- high morbidity and mortality just in combination with other pneumotropic infections or extrinsic factors

Interference with research

(reviewed by Cassel et al., 1986):

Oncology

- Influence on carcinogenesis (increase or decrease tumor induction following exposure to carcinogen)

Physiology:

- Respiratory tract:
 - Damage of airway epithelial and alveolar epithelial cells, mucus secretion, in severe cases bronchitis, bronchiectasis, emphysema and abscesses in the lungs.
- Genital tract:
 - Negative influences on in vitro and in vivo fertilization, on fetal development and drop in fertility.
- Suppression on interferon induction
- Chronic mycoplasmal infections interfere with gerontologic studies, nutrition, toxicology and behavioral research (Lindsay et al., 1971).

Immunology:

- Nonspecific mitogenic effect upon lymphocytes

- Since *M. pulmonis* and *M. arthritidis* can persist for months and years in many organs (also spleen) a diversity of effects on the immune system have been described. Cassell et al. (1986) have postulated three general mechanisms: (i) delay or prevention of antigenic recognition, (ii) derangement of immune regulations, or (iii) evasion of effector mechanisms.

References

Cassell, G., H., I. K. Davis, J. W. Simecka, J. R. Lindsey, N. R. Cox, S. Ross, and M. Fallon. 1986. Mycoplasmal infections: disease pathogenesis, implications for biomedical research, and control. In *Viral and Mycoplasmal Infections of Laboratory Animals. Effects on Biomedical Research*. Edited by Bhatt, P. N., R. O. Jacoby, H. C. Morse III, and A. E. New. Academic Press, Inc., Orlando, Florida.

Lindsey, J. R., H. J. Baker, R. G. Overcash, G. H. Cassell, and C. E. Hunt. Murine chronic respiratory disease. *Am. J. Path.* 1971; 64:675-716.

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