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


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