Effect of infectious dose and season on development of hemorrhagic pneumonia in mink caused by Pseudomonas aeruginosa

Hemorrhagic pneumonia is an acute and fatal disease of farmed mink caused by Pseudomonas aeruginosa. The pathogenesis of this disease has not yet been resolved. Mink are the only animals known to be susceptible to acute, contagious, and fatal lung infections caused by P. aeruginosa. The purpose of this study was to investigate the correlation between dose-response and season of infection and to clarify whether Danish mink are carriers of P. aeruginosa on their nasal mucosa during the season for hemorrhagic pneumonia. To elucidate the pathogenesis of the disease, an infectious dose-response trial was carried out on adult mink and mink kits, both in the season for hemorrhagic pneumonia (November) as well as out of season (July). It proved difficult to infect mink via the intra-nasal route. Only 4 out of 60 infected mink developed clinical disease and were euthanized, all of them in November, illustrating that predisposing factors in the mink itself and not infectious dose might be crucial for disease development. We were able to culture P. aeruginosa from the nasal cavity of the clinically healthy experimental mink 8 d after inoculation. This indicated that the mink can carry P. aeruginosa on their nasal mucosa without developing the disease. It was not possible, however, to culture P. aeruginosa from the nasal cavity of clinically healthy mink obtained from farms in November, which indicates that the organism is not a normal part of the nasal mucosal flora of mink.

General information
Publication status: Published
Organisations: National Veterinary Institute, Section for Public sector service and commercial diagnostics, Copenhagen University Hospital
Contributors: Salomonsen, C. M., Chriél, M., Jensen, T. H., Rangstrup-Christensen, L., Høiby, N., Hammer, A. S.
Pages: 221-225
Publication date: 2013
Peer-reviewed: Yes

Publication information
Journal: Canadian Journal of Veterinary Research
Volume: 77
Issue number: 3
ISSN (Print): 0830-9000
Ratings:
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 1.14 SJR 0.535 SNIP 0.709
Web of Science (2013): Impact factor 0.853
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
Original language: English
Source: dtu
Source ID: u::5710
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review