Mycoplasma bovis antibodies in a longitudinal outbreak study
Petersen, Mette Bisgaard; Holm, Dinah Lerdahl; Pedersen, Jeanette; Denwood, Matt; Nielsen, Liza Rosenbaum

Publication date:
2017

Document version
Peer reviewed version

Document license:
Other

Citation for published version (APA):
Mycoplasma bovis antibodies in a longitudinal outbreak study

Mette Bisgaard Petersen*, Dinah Lerdahl Holm, Jeanette Pedersen, Matt Denwood and Liza Rosenbaum Nielsen

Department of Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Denmark mbp@sund.ku.dk

Background
Mycoplasma bovis has traditionally been diagnosed with bacterial culture, but this is time consuming and expensive. Antibody measurements are cheap and readily available, but the relationship between clinical signs and antibody response in individual animals is not currently understood.

Study objective
To compare the development and variation in the dynamics of antibody responses to Mycoplasma bovis in groups of cows with different clinical signs

Methods
4 Danish dairy herds with acute outbreaks of Mycoplasma bovis associated disease

Blood and milk sampling for antibody measurements and clinical examination, done 5 times, 3 weeks apart (~3 months)

4 clinical groups
- Mastitis
- Arthritis
- Others
- Healthy

Linear mixed model: herd and cow as random effects
Outcome: Mycoplasma bovis BioX K302 ELISA-values (ODC%)

Results

Blood samples
- Substantial variation between cows
- Variation between clinical groups
- Antibodies very dynamic compared to other diseases

Milk samples
- Only useful for cows with mastitis
- Very short-lived, but substantial rise in antibodies
- Antibodies very dynamic compared to other diseases

Conclusions
Substantial variation between cows, even within groups with similar clinical signs of Mycoplasma bovis. The differences between groups might be useful for group diagnostics. Control herds need investigation

Acknowledgements: The Danish Milk Levy Fund and the Danish Cattle Levy Fund funded the study

SVEPM 2017 Inverness, Scotland