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FACULTY OF HEALTH AND MEDICAL SCIENCES
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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.

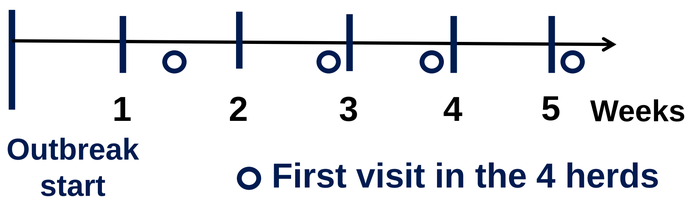
Study objective

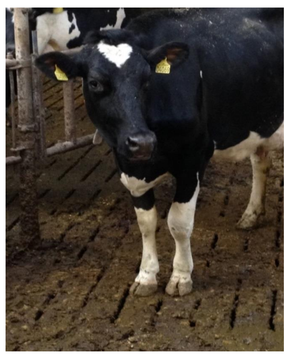
To compare the development and variation in the dynamics of antibody responses to *Mycoplasma bovis* in groups of cows with different clinical signs

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

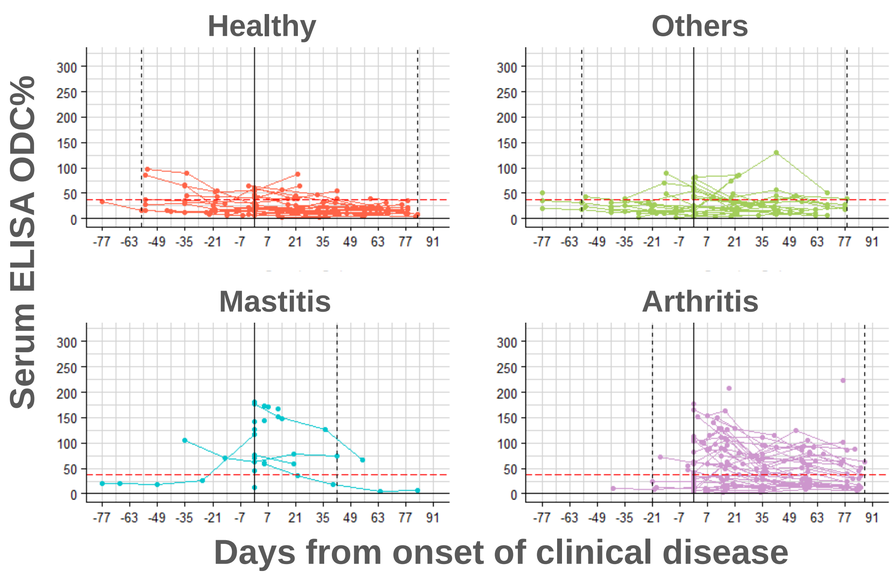
- Mastitis
- Arthritis
- Others
- Healthy

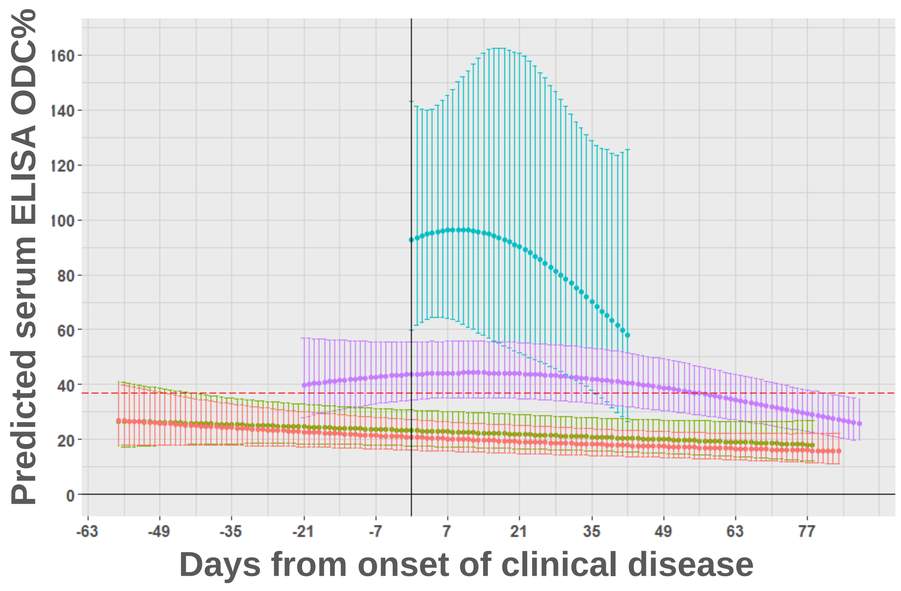
Linear mixed model: herd and cow as random effects
Outcome: *Mycoplasma bovis* BioX K302 ELISA-values (ODC%)

Results

Blood samples

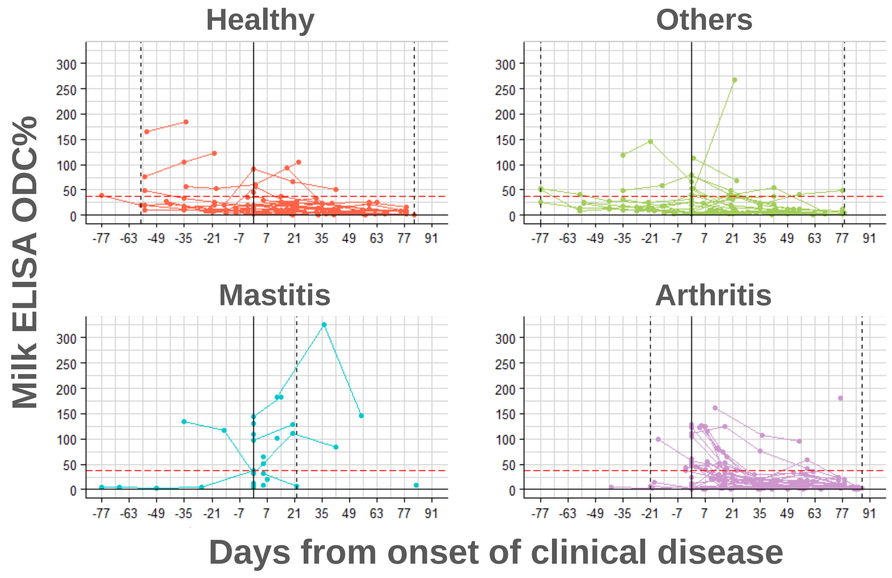
- Substantial variation between cows
- Variation between clinical groups
- Antibodies very dynamic compared to other diseases

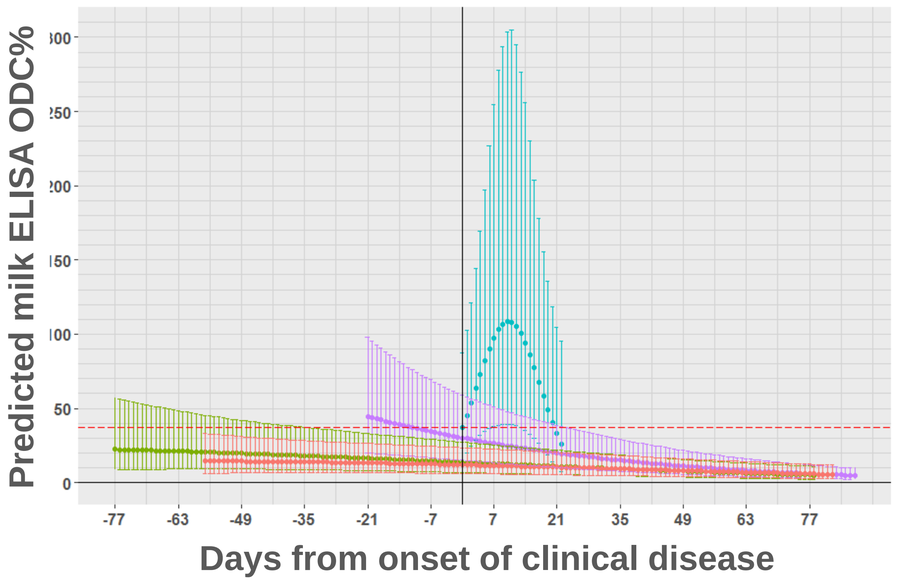




Milk samples

- 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

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