Milking behaviour in dairy cows naturally infected with clinical mastitis

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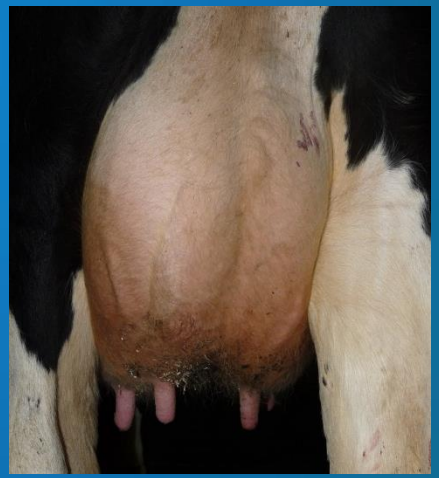

DEPT. OF ANIMAL SCIENCE
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BACKGROUND

- Mastitis → sickness behaviour in dairy cows (Fogsgaard et al., 2012)
  - › Focus on early identification of the disease
  - › Knowledge from experimentally induced mastitis
  - › Mainly E. coli and LPS mastitis

- Lack of knowledge about
  - › Naturally occurring mastitis cases?
  - › The behaviour in the recovery period?

AIM

- Overall project aim:
  - Is there a change in behaviour in dairy cows with naturally occurring mastitis where veterinary intervention is needed
  - Done by investigating
    - Behavioural changes, clinical signs and milking parameters

- Subproject aim
  - Describe the extent of behavioural changes in mastitis cows during milking in a automatic milking system (AMS)

DESIGN

- Free stall herd of Danish Holstein cows (Danish Cattle Research Center, Foulum, Denmark)
  - Followed during a 6 month period
- First 30 cows diagnosed and treated with antibiotics for clinical mastitis
  - Identified by change in somatic cell count or lactate dehydrogenase (LDH)
  - Diagnosed by presence of bacteria in milk

DESIGN

- Infected cow paired up with control cow
  - › Matched by lactation stage and number, yield and body condition
  - › 30 test cows + 30 control cows
- Kept in home environment
- Antibiotic treatment day = day 0, follow until day 10

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All data is collected on both test and control cows

- Thorough clinical examination on day 0
- Clinical data (day 0 → day 10)
  - Clinical udder score + rectal temperature daily

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  - Number of trip and kick during milking
  - Recorded from video of all milkings

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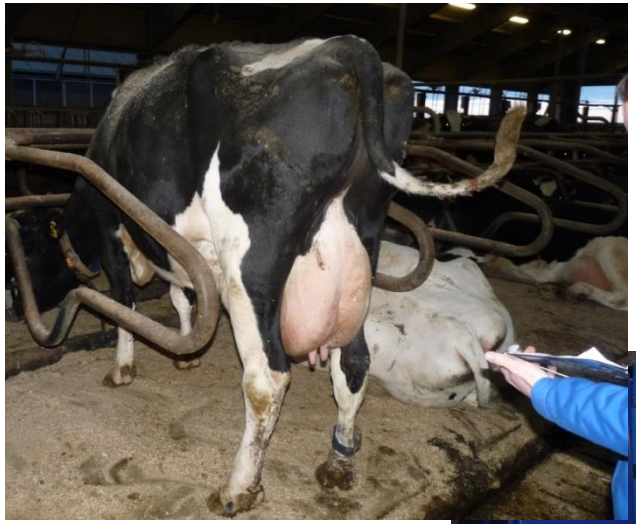
Data not presented here:

- Feeding data, Activity data, AMS-data and LDH measured by Herd Navigator (Lattec I/S, Denmark)

DATA

Clinical examination
- Swollen (0/1)
- Redness (0/1)
- Hardness (0/1)
- Soreness(0/1)
- Milk drip (0/1)

Clinical score (0-5)
- 0: No clinical signs
- 5: All clinical signs



RESULTS - CLINIC

Clinical Score

- More clinical signs during the entire observation period
- Significant difference on day 10!

Rectal Temperature

- 4 mastitic cows with > 39ºC on day 0
- No cows with > 39ºC on following days

RESULTS – MILKING BEHAVIOUR

Mastitic cows

- More restless behaviour in days pre-antibiotic treatment
- Kicks more during the entire observation period

CONCLUSION

- Udder inflammation clear and persistent
  - › Despite mild cases - lack of systemic reaction
  - →Infected animals not symptom free after treatment
- Restless behaviour during milking
  - › Changes persisted at least 7 days after the 3d treatment period
  - → discomfort, potentially pain?
- Correlation between degree of clinical score and amount of lift/kick during milking?

PERSPECTIVE

Milking time – a stressful and painful experience?!?

› Pain relief?

› During and after antibiotic treatment?

Sickness behaviour

› Important with knowledge about duration and magnitude of behavioural changes

› To help optimize management and welfare for mastitic dairy cows

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