

Subclinical mastitis and intra-mammary infections in Swedish beef cows

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Background

In beef cows, milk production is the most important factor affecting calf growth. Thus, factors that limit production has negative effects on calf weaning weight. Mastitis is a disease, which reduces milk production and is often associated with bacterial intra-mammary infection (IMI). Studies from UK and USA indicate that subclinical mastitis and/or IMI significantly affects calf weaning weight. The knowledge on subclinical mastitis in Swedish beef cows is, however, very limited.

The aim of the study was to investigate the prevalence of subclinical mastitis, IMI and blind quarters in a small number of beef herds to evaluate the need for more comprehensive studies regarding risk factors and control measures for subclinical mastitis in beef cows.

Materials and Methods

In 10 herds, udder conformation, udder condition, and presence of blind quarters was evaluated and quarter milk samples were taken from 9-12 beef cows per herd approximately one month after calving and close to weaning. The milk samples were analyzed for somatic cell counts (SCC) using CMT and the De Laval Cell Counter, and bacteriology using routine culturing procedures. Coagulase-negative staphylococci (CNS) were differentiated using Maldi-ToF. Subclinical mastitis was defined as $SCC \geq 200\ 000$ cells/ml at quarter level.

Results

In total, 104 and 90 cows were investigated after calving and at weaning, respectively. Of those, 24% and 10%, respectively, had at least one blind quarter. The proportion of cows with subclinical mastitis or IMI in at least one quarter at the sampling one month after calving was 46% and 40%, respectively. The corresponding numbers at the sampling close to weaning was 58% and 42%, respectively. Intra-mammary infection was found in 13% and 16% of udder quarter samples taken after calving and close to weaning, respectively. CNS and *Staphylococcus (S.) aureus* were the most common findings. Seven different CNS species were identified, but *S. chromogenes* was the most common finding (66% of the isolates). *S. aureus* IMI was found in 14% and 19% of the cows after calving and close to weaning, respectively. Approximately 10% of the cows had *S. aureus* IMI at both samplings. All parameters varied markedly between herds.

Conclusions

The results indicate that both subclinical mastitis and IMI are relatively common in Swedish beef cows, and that staphylococci are the most common IMI. Whether subclinical mastitis and IMI resulted in a lower weaning weight in calves from affected cows will be evaluated.