

Association of Coagulase-Negative Staphylococcal Intramammary Infections and Somatic Cell Counts

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Coagulase-negative staphylococcal (CNS) intramammary infections (IMI) are extremely prevalent in Canadian dairy herds. Coagulase-negative staphylococcal IMI have been associated with increased quarter milk somatic cell count (SCC), composite milk SCC and bulk milk SCC. It is important to know the degree to which SCC will increase, especially with a prevalent group of pathogens, such as CNS. The objective of this study was to compare SCC levels between uninfected quarters, and quarters with varying degrees of CNS IMI (100, 200-1,000 and >1,000 cfu/mL).

Approximately 100 cows from 6 Saskatchewan dairy herds had quarter milk samples collected aseptically for both SCC analysis and bacteriology. Samples collected for bacteriology were plated on blood agar and quarters identified as either culture negative or being positive for CNS were used for analysis. Quarters that were positive for CNS were classified based on CNS shedding: low, moderate or high (100, 200-1,000 or >1,000 cfu/mL, respectively). Somatic cell counts were converted to somatic cell scores (SCS) for analysis and compared with bacteriology results.

It was found that cows that were moderate or high shedders of CNS had a significantly higher SCS than uninfected cows. There were no differences between low shedders and uninfected quarters. High shedders had significantly higher SCS than any other group. However, quarters infected with CNS did not exceed a SCS of 4 (SCC of 200,000 cells/mL), which is the accepted limit of what is a "healthy" quarter. Therefore, even though there is an observed increase in SCS in high shedders, this might not have a significantly detrimental effect on udder health for these animals. In conclusion, animals with increased shedding of CNS have higher SCS than uninfected animals, however, this SCS level is lower than what you might see with IMI from major pathogens.

Implications: Coagulase-Negative Staphylococcal IMI are very prevalent in Canadian dairy herds and can result in increased SCC, as compared to uninfected animals. However, since SCC levels are relatively low, we can speculate that CNS infections do not have significantly detrimental effects on udder health.