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Prevalence of mastitis pathogens in milk from clinically healthy cows

Cervinkova D, Vlkova H, Borodacova I, Makovcova J, Babak V, Lorencova A, Vrtkova I, Marosevic D, Jaglic Z:

Veterinarni Medicina, 58 (2013): 567-575

[fulltext]

A total of 669 individual cow milk samples originating from asymptomatic cows from 16 dairy farms were examined for the presence of microorganisms with the potential to cause mastitis. Coagulase-negative staphylococci clearly predominated (53.5% positive samples) followed by streptococci and enterococci (both occurring in 16.1% samples). Among streptococci, so-called mastitis streptococci (*S. uberis*, *S. dysgalactiae* and *S. agalactiae*) prevailed (11.7% positive samples). *Enterobacteriaceae* were found in 10.0% samples, most of which (6.6% samples) were positive for *Escherichia coli*. Yeasts (mainly *Candida* spp.) were found in 8.2% samples. One

of the major mastitis pathogens, *Staphylococcus aureus* subsp. *aureus*, was isolated from 9.0% of samples. *S. aureus* isolates were further characterised in terms of their capability to form biofilm, antimicrobial susceptibility and clonality (PFGE). All *S. aureus* isolates were capable of biofilm formation and were generally susceptible to the majority of tested antibiotics. The exception was ampicillin, resistance to which was observed in 27.7% isolates. Therefore, the relatively frequent occurrence of *S. aureus* could be attributed to persistent intramammary infections due to biofilm formation rather than low efficacy of particular antibiotics. PFGE analysis revealed clonal spread of certain *S. aureus* isolates within and between farms indicating that certain lineages of *S. aureus* mastitis strains are particularly successful.

Keywords:

mastitis; bovine; intramammary; IMI; etiology; epidemiology; macrorestriction

[fulltext]