INVESTIGATIONS ON MASTITIS PATHOGEN SPECTRUM IN LATVIA DAIRY HERDS

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Introduction: MASTITIS continues to be a problem in dairy-farming worldwide and in Latvia, too. Clinical and subclinical MASTITIS cause economic losses, reduce MILK QUALITY and are the risk factor for consumers' health, because pathogenic micro-organisms can pass into milk.

Objective: The objective of current study was to investigate MASTITIS pathogen spectrum in dairy herds of Riga, Valka, Cesis and Aizkraukle regions in Latvia.

Material and methods: In total, 720 subclinical and clinical MASTITIS secretion samples were analyzed. Samples were inoculated on 5 % sheep blood agar and different selective culture media for isolation of staphylococci and gram-negative micro-organisms. Isolated micro-organisms were further identified to species level using gram-positive and gram-negative kits of BBL Crystal Identification System.

Results: Micro-organisms of Staphylococcus genus were isolated from 409 (56.8 %) of diseased cows' udder secretion samples (n = 720). Streptococcus agalactiae, were isolated from 73 (10.1 %) of analysed samples. Gram-positive Aerococcus viridans, Bacillus cereus, Corynebacterium bovis, Listeria monocytogenes and gram-negative Escherichia coli, Aeromonas hydrophila and Citrobacter freundii were isolated from 217 (30.1 %) of MASTITIS secretion samples. 21 (3.0 %) of analysed samples were bacteriologically negative. Staphylococcus aureus were isolated from 32.4 % of subclinically (n = 583) and 24.1 % of clinically (n = 137) diseased cows' udder secretion samples, but coagulase negative staphylococci from 26.8 % and 22.6 %, respectively. There were isolated 9 coagulase negative staphylococcus species from MASTITIS secretion samples. The most frequently isolated coagulase negative staphylococci were Staphylococcus haemolyticus in both cases of MASTITIS. Staphylococcus aureus antigen is developed and experimentally tested at the research Institute of Biotechnology and Veterinary Medicine "Sigra". The results established that the number of cows, the milk of which contains Staphylococcus aureus, after the 1st vaccination diminished 1.5 times.

Conclusion: The obtained results demonstrate that micro-organisms of Staphylococcus genus predominate in subclinically diseased cows' udder secretion samples.

Keywords: Cows' MASTITIS, pathogens