Effect of penicillin treatment on clinical and bacteriological cure of acute mastitis

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Mastitis remains a common and very costly production disease in dairy production. The causative agent has often been determined through a simple (“quick and dirty”) microbiological analysis. In the current presentation, data for misidentification of pathogens in by the use of this method will be presented. Especially samples containing CNS, S. uberis and Klebsiella may be misdiagnosed. In recent years, the number of milk samples taken from acute mastitis has dropped dramatically, and the disease is treated routinely with simple penicillin for 3 days, without knowing the causative microorganism. Based on the species distribution of the common mastitis pathogens and their susceptibility to penicillin, one should expect this to result in a relative high number of treatment failures. Based on this we undertook a close follow up of all cases of acute mastitis (n=54) in five Danish cattle herds, including bacteriological and clinical examination before, during and after treatment. Bacteriological cure was found to be 62%, clinical cure 70%. Farmers judged 89% of treated cows to be ready to re-enter into production, in the sense that no additional treatment was undertaken and the cow was not culled. Bacteriological cure was dependent on bacterial species with CNS and E. coli as the common reasons for no-cure, however, these were also in general the most common pathogens in the five herds. Bacteriological cure did not depend on the CFU in the milk samples at day 0 (treatment start), nor on the Somatic cell count on day 0. However, cows that were cured showed a significantly higher drop in SSC from day 0 to day 7 (end of treatment). The results calls for attention to a closer follow up at the end of mastitis treatment, since it must be considered a welfare, as well as biosecurity, problem to include non-cured animals into the production.

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