Introduction

Mastitis is the most common and most costly disease afflicting dairy cattle. In herds without an effective mastitis control program, about 40% of the cows are infected in an average of two quarters. Infectious mastitis can be caused by microbial organisms that result in clinical signs characterized by inflammation that disrupts normal functions (reduction in milk yield, changes in milk composition) and in systemic signs (fever, depression, loss of appetite and loss of weight). Acute mastitis caused by coagulase-negative staphylococci endangers the cow's life and requires the immediate attention of a veterinarian. Treatment of clinical mastitis limits the illness’s duration and the possibility of the spread of the disease. The aim of this study was to investigate and to compare the efficacy of two different therapies against acute clinical mastitis in dairy cows.

Materials and Methods

A multi-centric, controlled and randomized trial was carried out on 155 enrolled animals for 14 days.

Inclusion criteria:
- Acute: sickness with fever for not longer than 2 days
- Fever: body temperature of >39.6 C
- Acute mastitis caused by Str. uberis, Str. dysgalactiae or other streptococci the microbiological cure was lower compared to those caused by E. coli but with similar cure rates for both treatment regimens.
- Cows with acute mastitis and treated with Baytril recovered sooner from fever (p = 0.002) and generalised disease symptoms (p = 0.03) than those treated with Mamyzin/Cobactan LC. Post-treatment recovery of milk yield was likely better (p = 0.03) in the Baytril treated cows as well. As to the other parameters, recovery was similar for both treatment regimens.
- Irrespective of the causative organism, intravenous Baytril treatment cures acute mastitis more rapidly (fever, morbidity, milk yield) than the Mamyzin/Cobactan LC combination and also results in a reduction in both laboratory testing fees and in the milk withdrawal period (4 days vs. 6 days).

The animals enrolled in the trial treatment groups received a daily physical examination of the udder on days 1 (enrolment day and first day of treatment), 2, 3, 5, 7 and 14. Then, rectal temperature was measured, the udder secretions were evaluated through local inflammation, altered milk.

Two treatment groups were created:

Group 1 Baytril, n = 76
5 mg/kg b.w. of Enrofloxacin (Baytril® 10% inj. solution) intravenously (5 ml/100 kg b.w.) for 3 consecutive days.

Group 2 Mamyzin/Cobactan LC, n = 79
1 syringe of Cobactan® LC (each 8 gram syringe contains 75 mg of Cequinome)/head intramuscularly for 3 consecutive days.

Results and Discussion

Clinical response broken down according to milk microbiology of the affected quarters on the day of inclusion

The most frequently isolated microorganisms were Str. uberis (31/155, 20%) and E. coli (20/155, 13%). Both therapies resulted in a significant reduction (p <0.001) in microbiologically infected quarters, i.e., from 100% to 7.69% (4/52) with Baytril and to 7.14% (4/56) with Mamyzin/Cobactan LC.

Clinical response at day 14 (cure, failure, relapse), as %

- There was a full microbiological cure for all E. coli cases in both groups. For acute mastitis caused by Str. uberis, Str. dysgalactiae or other streptococci the microbiological cure was lower compared to those caused by E. coli but with similar cure rates for both treatment regimens.
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Mean score general condition, all cows

Mean daily milk yield (L), all cows

Mean somatic cell count (x10³), all cows