

# Ketoprofen as the sole initial treatment for mild and moderate bovine mastitis: efficacy and antibiotic reduction

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## Objectives

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Many farmers are not used to targeted mastitis treatment in conjunction with an on-farm test. Another possibility to use antibiotics more prudently in mastitis could be the initial treatment of all mild and moderate mastitis cases with an NSAID. Only if this treatment does not result in clinical cure within a desired time period, antibiotic treatment could be used.

## Material and methods

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In this clinical study carried out in three conventional northern German dairy farms between November 2022 and November 2023, all mild and moderate mastitis cases were randomly initially treated with either antibiotic (control group: C) or an NSAID (experimental group: E). Cows in group C received a 2-days intramammary treatment with cephalexin 200mg/kanamycin 100,000 I.U. one tube (Ubrolexin®, Boehringer Ingelheim) once daily). Cows in group E received three intra-muscular injections at 24 h intervals with 3 mg ketoprofen per kg bodyweight (Romefen PR 10%®, Ketofen® 10%, Ceva Animal Health). If on the third day after the start of treatment with the NSAID, the clinical mastitis score had not improved by at least one level compared to the start of treatment, the animal was treated with intramammary antibiotics (as in the control group).

## Results

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A total of 217 clinical cases of mastitis occurred. The two groups did not differ in terms of lactation number, pathogen spectrum, lactation phase and mastitis history. In the experimental group, only 11.4% of mastitis cases needed to be treated with antibiotics. Clinical cure (CC) occurred significantly later in the experimental group (CC day 5: C: 83.9% vs. E: 58.3%) than in the control group. During the observation period, the groups did not differ in terms of recurrent mastitis cases (C: 4.2 % vs. E: 7.8 %) and new infections (C: 7.6 % vs. E: 5.3 %). The bacteriological cure rate was 79.8% in the control group and 60.9% in the experimental group ( $p < 0.01$ ).

## Conclusions

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In the context of responsible antibiotic use the initial therapy with an NSAID such as ketoprofen in cases of mild and moderate mastitis is certainly a therapeutic option. The use of ketoprofen instead of antibiotics allows also for a lower quantity of discarded milk since it can be delivered again immediately after clinical cure (no withdrawal period for milk). It therefore reduces food waste and the costs of mastitis for the farmer.

The study also showed that the follow-up treatment with antibiotics is only necessary in a small proportion of cases.

Although, we found differences in clinical and bacteriological cure in favor of intramammary treatment, a targeted mastitis concept with pre-selection of cases to be treated with ketoprofen alone could avoid this limitation.