

Efficacy of *Zataria multiflora* essential oil for treatment of *Staphylococcus aureus* detected by polymerase chain reaction in lactating dairy cows with subclinical mastitis

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Abstract

A treatment containing *Zataria multiflora* essential oil was compared with antibiotic therapy for *Staphylococcus aureus* subclinical mastitis in dairy cows in a field trial. Treatment outcomes in response to ointment were monitored using microbiological culture. Intramammary ointment of a *Z. multiflora* essential oil (Group 1; IOZM) was compared with placebo ointment (Group 2; PO), cefquinome intramammary lactating cow ointment (Group 3; CFQ) and a negative control group (Group 4) in 18 dairy cows with *Staphylococcus aureus* subclinical mastitis each group. Effects on bacteriological cure rate in response to ointment treatment were monitored by culture. Results from this field trials demonstrated that IOZM treatment had the potential to be as effective at eliminating *Staphylococcus aureus* subclinical mastitis as treatment. Following a 14-d and 28-d experimental period, bacteriological responses were observed in 9 out of 18 IOZM treated cows compared with 10 out of 18 CFQ treated cows. Also, the California Mastitis Test grade had no significant effect on treatment. The results of this trial suggest that *S. aureus* subclinical mastitis treatment with *Z. multiflora essential oil*, which indicates that this treatment could be used as an alternative treatment. We successfully treated the *S. aureus* subclinical mastitis in bovine with *Z. multiflora* essential oil and can suggest it's used instead of antibiotic use.

Keywords: Cefquinome, Intramammary Ointment, *Staphylococcus aureus*, Subclinical mastitis, *Zataria multiflora*

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