EFFICACY OF KETOPROFENE (Fenleve®*) FOR THE REDUCTION OF SOMATIC CELLS IN THE MILK OF HIGH PERFORMANCE DAIRY COWS IN ITALY PRELIMINARY STUDY

EFFICACIA DEL KETOPROFENE (Fenleve®*) NELLA RIDUZIONE DELLE CELLULE SOMATICHE NEL LATTE DI VACCHE AD ALTA PRODUZIONE IN ITALIA

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KEY WORDS: *cow, mastitis, somatic cells, ketoprofene.*

10th Congress of S.I.R.A. (Italian Society of Animal Reproduction)

Tirana, Albania, 23-25 May, 2012

ABSTRACT

A high count of somatic cells (SCC) in the milk is a great problem for dairy farm breeders over all the world. The aims of this study have been to evaluate the capacity of ketoprofene to select the cows with high SCC due to microbial mastitis from those due to traumatic inflammatory conditions, the efficacy of the drug in decreasing the number of the SCC used alone or in association with the antibiotic of election. In all cases the results have been very satisfactory.

L'elevato numero di cellule somatiche (SCC) nel latte è un problema importante per gli allevatori di tutto il mondo.
L'obiettivo di questo studio è quello di valutare, la capacità del ketoprofene di selezionare, tra le vacche con un elevato numero di cellule somatiche, quelle affette da mastite batterica, da quelle con infiammazioni di altra origine.
L'efficacia del ketoprofene nella riduzione del numero di SCC, inoltre, è stata valutata utilizzandolo da solo o in associazione con l'antibiotico di elezione.
In tutti i casi i risultati sono stati molto soddisfacenti.

INTRODUCTION

In dairy farm with high milk production the SCC is one of the most heavy problems that farmers of all the world have to face (1). This condition is often due to a sub-clinical infectious mastitis (2), but in other cases is induced by lameness, skeletal inflammatory condition or myositis (3). The aims of this study have been the following: evaluate the efficacy of ketoprofene (4) in selecting the cows with SCC induced by trauma from those with infectious mastitis, verify the efficiency of ketoprofene in decreasing the number of SCC, control the possibility of using an association of ketoprofene associated with the elective antibiotic in reducing the SCC and recovery the cows from mastitis.

MATERIALS AND METHODS

In this study the Authors considered a sample of 67 dairy cows belonging to a separate group of 130 cows all with history of high SCC, 50 were the treatment group, 17 the control group. The cows belonged to a farm of 3,000 cows and of course the high SCC group was the last to milk. Tab. 1 shows that 50 cows with SCC of 520,000 to 20.141 million (mean 3.354 million) were treated with ketoprofene (*Fenleve®* *) 2,000 mg (20 ml) i.m. day for three days. The control received 20 ml of Ringer's solution i.m. for three days. After 10 days the SCC were controlled and the cows that kept high SCC or increased were treated with ketoprofene same dose plus 15 mg/kg ampicillin and 7.5 mg/kg dicloxacillin i.m (*Cloxalene® plus°*) for three days. If the germ isolated was not sensible to the chosen antibiotic, the treatment was repeated with the elective one. The cows that did non have any reaction to the second treatment and the control that at the second control were still at very high level of SCC were culled. The results were statistically evaluated.

* *ATI-Farms® s.r.l. - Ozzano Emilia (BO) - Italy*
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RESULTS

Table I shows that 34 cows (68%) gave a positive response and the range dropped to 60,000 to 432,000 with an average 247,500.

The 16 cows that did not have a positive reaction at the bacteriological examination showed several bacteria like *Staphylococcus spp.* excluding *S. aureus*, *Serratia, Enterococcus faecium/durans* all sensitive to ampicillin.

Six of these cows reacted positively to the treatment with ketoprofene plus ampicillin plus dicloxacillin.

The 10 remaining cows of this group kept high SCC and were culled.

The SCC of the control did non change in a significant way so since the udder was not in good condition and the cows were not high producing anymore we decided to cull all of them so the general mean of SCC in the group decrease considerably and the milk could be sold for his proper use.

The comparison between the means resulted to be highly significant in both cases (Tab. 1).

(Tab. 1) EFFICACY OF KETOPROFENE (FENLEVE) ON MILK SOMATIC CELL COUNT (SCC) IN HIGH PRODUCING DAIRY COWS

	SCC x 1000 before treatment			SCC x 1000 after treatment with positive reaction			SCC x 1000 before treatment with ketoprofene + antibiotic			SCC x 1000 after treatment with ketoprofene + antibiotic		
TREATED	Cows sample n°	Range	Mean (μ)	n°	Range	Mean (μ) S.D.	n°	Range	Mean (μ) S.D.	n°	Range	Mean (μ) S.D.
	50	520-20141	3354^	34	60-432	247.5±84^	16	664-7967	800±75*	6	49-399	226.33±64*

	SCC x 1000 before treatment			No treatment		
CONTROL	Cows sample n°	Range	Mean (μ)	n°	Range	Mean (μ) S.D.
	17	538-18432	3222	17	437-16832	2889

^ The comparision between the to means is highly significant P<0,001
** The comparision between the to means is highly significant P<0,01*

DISCUSSION

Ketoprofene has shown to be a very valuable tool to select cows with high SCC in the milk due to trauma or non infectious causes from those due to bacterial sub-clinical mastitis.

It has good efficacy in decreasing the number of somatic cell and has the great advantage that does not pass into the milk, so the production of treated cows can be use with a great advantage for the farmer and for the consumers.

In association with and elective antibiotic it can be use as an adjuvant for the therapy of bacterial chronic mastitis, but is efficacy is not very high.

Anyway after the results obtained in his preliminary study the Authors are very favorable to the use of the protocol described in the present paper.

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