INTRODUCTION

Mastitis is a disease which frequently encountered in cattle industries, have a significant economical loses at manufacturers and zoonotic risks for the human health. In struggle with the disease need to take protection and control protocols carefully. By this way the incidence of mastitis could be reduced but never resolved totally. Antibiotics are generally used in the treatment of mastitis. The most important factor in the relationship between mastitis and health is that the antibiotics used in treatment leave residues in milk. Hypochlorous acid is a physiologic material synthesized during phagocytic activation and eliminated by all microorganism. And also, hypochlorous acid provides the accumulation of keratinocyte and fibroblasts in inflammation area quickly. In this study, it was aimed to investigate the efficacy of intramammary use of hypochlorous acid (Crystalin®, NPS Biyosidal, Istanbul) which is stable and physiological pH values. Since therapeutic administrations of hypochlorous acid do not leave residues in milk, it is very important for the human, animal health and management cost.

MATERIAL AND METHODS

Present study was performed in two different dairy farm with 227 and 64 Holstein cows. All of the animals were administered with California Mastitis Test (CMT) for detecting subclinical mastitis. Mammary lobes diagnosed with subclinical mastitis were involved the study. Subclinical mastitis was determined in 69 mammary lobes from 40 cows in first dairy farm and 5 mammary lobes from 5 cows in second dairy farm. Hypochlorous acid (100 ml) were administrated 3 times 12 hours intervals mammary lobes with subclinical mastitis after milking. Before the first and after the last hypochlorous acid administration the milk samples were taken for microbiological analyze. And also, milk samples of CMT negative 10 healthy cows from each dairy farm were taken for microbiological analyze as a control group.

RESULTS

In the first dairy farm, microbiological analyze results were found positive in 46 of 69 milk samples which were collected before hypochlorous acid administration. Microbiological analyze results were found negative in 29 of 46 milk samples following 3 hypochlorous acid administration. In second dairy farm, microbiological analyze results were positive in 3 of 5 mammary lobes with subclinical mastitis before treatment and microbiological analyze of all the samples were negative following the 3 administration of hypochlorous acid. In the present study, when somatic cell numbers (SHS) were compared before and after treatment, SHS could be increased by the hypochlorous acid administration. However, SHS were decreased one week later after treatment.

CONCLUSION

This is the first study to use hypochlorous acid in mastitis. In conclusion, this preparation could be used to treat subclinical mastitis as an alternative agent to antibiotics. But, further examinations are necessary to determine exact dose and frequency of hypochlorous acid treatment.

REFERENCES