



**University of Zabol  
Graduate School  
Faculty of Veterinary  
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**The Thesis Submitted for the Degree of DVM**

**Epidemiological study of Staphylococcus aureus and Streptococcus agalactiae in  
cows with subclinical mastitis in Neishabour city by PCR technique**

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**Abstract:**

Mastitis is the reaction of milk-secreting tissue to an injury caused by physical and chemical force applied to the mammary gland. In most herds, subclinical mastitis is the most common type of disease (ratio 1 to 50) and causes the most economic loss.

Subclinical mastitis accounts for about 90-98% of total mastitis. It is economically the largest and most important disease in the dairy industry in Iran and the world. Therefore, identifying the agent and presenting control programs is very important. The aim of recent research is to identify important microorganisms (*Staphylococcus aureus* and *Streptococcus agalactiae*) in the development of subclinical mastitis and to investigate the risk factors associated with it.

In this study, 500 healthy cows (2000 Cartier) were first screened using the California Mastitis Test and 94 cows and 124 Cartier tested positive. Sampling and recording of demographic characteristics of the livestock was performed and transferred to the freezer until further testing. Prevalence was observed in high density farms, low level of hygiene and older livestock. 124 milk samples were positive and DNA extraction was performed by boiling method. Using the sequence of specific primers of these two bacteria, PCR test was performed, the results of which are as follows: 8 samples (6.4%) of *S. aureus* and 27 samples (21.7%) of *S. agalactiae* were positive during PCR test. As a result, the incidence of *S. aureus* is lower than other regions, but the prevalence of *S. agalactiae* is relatively high and is one of the important bacteria in causing mastitis in Neishabour region.

**Keywords:** Subclinical mastitis(SCM), *S. aureus*, *S. agalactiae*, California mastitis test (CMT), polymerase chain reaction (PCR)