



The Importance of *Corynebacterium Bovis* Causing Mastitis



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Abstract

Bovine mastitis is the most frequent disease in dairy farms and cause several economic losses. *Coryne bacterium bovis* is a common agent of intra-mammary infections. This pathogen presents less importance for many researchers but there are many reasons to evaluate its participation as an important etiological pathogen of mastitis, such as the occurrence of this microorganism in the etiology of the bovine mastitis, effects on milk production and in somatic cell count (SCC).

Keywords: *Coryneform bacteria*; Milk production; Etiology of mastitis; Intra-mammary infections

Introduction

Mastitis is the most important cause of economic losses in dairy farms worldwide. Besides, this disease has a high relevance to public health by direct transmission of food borne pathogens and/or the ingestion of the produced toxins and enterotoxins [1,2].

The most frequent etiological agents of bovine mastitis are *Staphylococcus aureus*, coagulase negative *Staphylococcus*, *Streptococcus agalactiae*, *Streptococcus dysgalactiae*, *Streptococcus uberis*, *Escherichia coli*, and *Corynebacterium bovis* (*C. bovis*) [3].

There are many conflicts concerning the relevance of *C. bovis* as the etiological agent of mastitis. Many authors consider *C. bovis* either as a commensal pathogen of the udder and a pathogen of less importance [4-6], while other studies described this microorganism as an important causative agent of mastitis [7-10].

There are many aspects to reinforce the importance of *C. bovis* in mammary disease. One of them is the high frequency of isolation, such as reported by Haltia et al. [8]; Costa et al. [11]; Langoni et al. [12]; with 22,74%, 15,94% and 14,6%, respectively. In addition, 23,5% reduction in the production of the quarters infected can be observed [10], affecting the production and the development of dairy farms [13,14].

The effect of *C. bovis* on somatic cells count (SCC) has also to be considered, once studies showed higher in the quarters

infected when compared with healthy quarters [14-16]. Victória et al. [17] observed medians of SCC equal to 262×10^3 cells/mL and 806×10^3 cells/mL, respectively in milk samples negative and positive to *C. bovis* from naturally infected mammary glands and even some cases resulted 1×10^6 cells/mL. Langoni et al. [10] showed clinical and subclinical cases of mastitis caused by *C. bovis*, and one of them have more than 8×10^6 cell/mL.

Conclusion

The role of the *C. bovis* in bovine mastitis is poorly understood yet, but there are many evidences to complain that. Nowadays, *C. bovis* has an important participation as an etiological pathogen of mastitis, due its high prevalence causing mastitis, decrease in milk production and increase of SCC in the quarters affected by this coryne form bacteria.

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