TITLE: POTENTIAL BACTERIAL CAUSES OF MASTITIS IN CATTLE

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ABSTRACT:

Mastitis is one of the diseases that cause several problems in the milk production chain, causing economic losses due to decreased production and milk disposal, drug costs and veterinary assistance. Mastitis is defined as an inflammatory process in the mammary glands caused by numerous microorganisms, classified in contagious or environmental species, and the distinction between them depends on the form of transmission. Environmental mastitis is transmitted by pathogens present in the environment of the herd, mainly where there is accumulation of manure, urine, clay and organic beds. Contagious mastitis, on the other hand, is related to transmission through the hands of the milker, by cloths or sponges of multiple use, cross contamination of the equipment and by deficiency in handling between animals. Among the pathogens that cause contagious mastitis, *Staphylococcus aureus*, *Streptococcus* sp. and Corynebacterium sp. Thus, the main microorganisms that cause contagious mastitis in cattle are mentioned in this work. A study was carried out with 66 milk samples from cows with clinical and subclinical mastitis between 2016 and 2017. Bacterial isolation, morphological identification by Gram staining and confirmatory biochemical tests were performed. In the analyzed samples, 97 microorganisms were identified, among which 38.14% were *S. aureus*, 37.12% *Streptococcus sp*. and 24.74% *Corynebacterium* sp. In 50 samples were observed association between these microorganisms, as well as relation with other environmental bacteria, such as *Escherichia coli*, *Pseudomonas aeruginosa, Enterobacter* sp. and *Bacillus* sp. Thus, it can be seen that contagious mastitis can be caused by more than one pathogen. The study demonstrated the presence of these microorganisms, characterizing their participation in the process of contagious mastitis infection. Therefore, it should be noted that in addition to losses in milk production, these pathogens can compromise animal welfare and pose risks to consumer health. In this case, training programs for milking handlers as well as good practices in obtaining milk are necessary for the prevention of contagious mastitis.

Keywords: Mastitis, *Staphylococcus aureus*, *Streptococcus* sp., *Corynebacterium* sp.