TITLE: QUANTITATIVE ALTERATION IN TOTAL CASEINS AND MINERALS IN PASTEURIZED COW'S MILK AFTER EXPERIMENTAL CANTAMINATION BY *Staphylococcus aureus*

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ABSTRACT:

Bovine milk is considered an outstanding food source, as it is rich in proteins, fats, carbohydrates, minerals and vitamins. Yet the quality of the milk produced is often a major barrier to its marketing. The quality of the milk produced is often a major barrier in their marketing. Milk considered to be of good quality must have satisfactory organoleptic, nutritional, sensory, microbiological and physical-chemical characteristics. Bovine milk contamination by *S. aureus*, before, during or after milking, has caused a great damage to the dairy industry. This contamination could change the pH, the whey proteins amount and increase of somatic cell count. Thus, the objective of this study was to verify changes in quantification of total caseins and minerals during experimental contamination of milk with *S. aureus*. Samples of pasteurized milk type C were collected from supermarkets in Vitória da Conquista. Samples were previously analyzed to test the quality and absence of pathogenic microorganisms. The *S. aureus* strain ATCC 25932 was inoculated during 24 hours. The samples were collected after 24, 48 and 72 post inoculation. The physico-chemical analysis, quantification of total caseins and minerals were performed. Controls samples was added with salin inoculation. We observed significant growth of the *S. aureus* in the respect times. However, there was no relationship between contamination and total caseins alterations and minerals calcium and sodium. There was statistically significant reduction of the potassium and magnesium, showing an inverse relationship to sample contamination. The relationship between contamination milk and the loss of quality was observed in the present study. This relationship observed could cause damage to consumers and to the dairy industry.

Keywords: *Staphylococcus aureus*, pasteurized milk, total caseins, minerals.