Treatment of *Streptococcus agalactiae* in bovine subclinical mastitis improved isolation of *Staphylococcus aureus* in milk culture

Luiza Aymée[2], Juliana França Monteiro de Mendonça[1], Juliana de Souza Pedrosa[2], Flávia Peixoto Caldas Marmo[2], Guilherme Nunes de Souza[1,3]

[1]Federal Fluminense University, Niterói, Rio de Janeiro, Brazil.
[2]Laboratory of Veterinary Bacteriology, Biomedical Institute, Federal Fluminense University, Niterói, Rio de Janeiro, Brazil.
[3]Embrapa Gado de Leite, Juiz de Fora, Minas Gerais, Brazil.

Bovine subclinical mastitis is an important disease that leads to economic hazards. *Streptococcus agalactiae* and *Staphylococcus aureus* are major contagious pathogens. Due to each pathogenesis in mammary gland, their treatment differ: *S. aureus* colonizes parenchyma and produces abscess, what difficult therapy. *S. agalactia*e can be treated with blitz therapy, an antimicrobial procedure specific to this pathogen. Milk culture in nutritive media has been one of the most used diagnosis tools. When coinfection by both pathogens exists, the load of *S. agalactiae* released in milk is greater than *S. aureus* and it could implicate in interference in *S. aureus* isolation in nutritive culture media. The aim of this study was to evaluate variation of sensitivity and accuracy of *S. aureus* isolation after *S. agalactiae* blitz therapy in a herd. This study was protocolled Ethics and Animal Use Committee of Federal Fluminense University as 9683100719. A dairy herd positive for both pathogens was selected. Milk from 120 lactating cows were collected monthly, during 5 months. Contagious mastitis preventive measures were established. Milk culture was performed after monthly sampling. Milk was cultured in blood agar and biochemical tests were performed following National Mastitis Council guidelines. All cows positive to *S. agalactiae* were submitted to blitz therapy with cloxacilin (200mg) and ampicillin (75mg) intramammary. Antibiotic was administrated each 12 hours during 3 days. Milk with residues was discarded. Therapy protocol was proceeded monthly according with culture results. S. aureus results were compared each couple of months and sensitivity was estimated, considering the subsequent month as gold standard. Sensitivity of *S. aureus* isolation in nutritive media increased in 26.3% (from 50.0% to 76.3%) after four months of *S. agalactiae* treatment. Accuracy raised 18.3% (from 67.1% to 85.4%). At the same time, the prevalence of cows infected by *S. agalactiae* decreased from 61.0% to 3.8%, while *S. aureus* prevalence raised of 28.3% to 35.0%. *S. agalactiae* treatment was efficient, as demonstrated by the sudden decrease of prevalence. Since the adopted preventive measures were rigorous, the increase of *S. aureus* prevalence is a result of enhanced diagnose method. The results demonstrated that, in cases of intramammary coinfection, *S. agalactiae* blitz therapy treatment improves sensitivity and accuracy of *S. aureus* isolation in blood agar medium.

Keywords: Cattle, contagious mastitis, bacteria, milk culture, coinfection.

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