

## EVALUATION OF BETA-LACTAM RESISTANCE IN PRINCIPAL CAUSAL AGENTS FROM MASTITIS

TITON, Maiara Cristine<sup>1</sup>; ZONTA, Angela Salete<sup>1</sup>; KUHN, Ediane<sup>1</sup>; BASSANI, Milena Tomasi<sup>1</sup>.

<sup>1</sup> FAI - Itapiranga College (Street Carlos Kummer, 100 - University Quarter, Itapiranga - SC, CEP: 89896000);

Mastitis is an inflammation of the mammary gland which is presented in the form contagious and environmental. Its major pathogens: Gram-positive bacteria *Staphylococcus spp.*, *Streptococcus spp.*, and gram-negative bacteria *Escherichia coli*. It is noteworthy, then the importance of completing the resistance/sensitivity test to antibiotics for the treatment of this disease, avoiding the use and the resistance of microorganisms to them. The objective was to evaluate the resistance of strains isolated from dairy cows with mastitis to beta-lactam antibiotics. They were 8 samples evaluated *Staphylococcus spp.*, 5 *Streptococcus spp.* samples, and 2 *E. coli* samples, from milk from cows with mastitis, to perform the resistance/sensitivity test to antimicrobial beta-lactam, according to the protocol proposed by the CLSI (2010), using the disc-fusion technique. The 4 chemotherapy drugs used were Penicillin G, Ampicillin, Ceftiofur and Ceftriaxone. *Staphylococcus spp.* 8 strains 50% showed resistance to antimicrobial agents: Ampicillin, penicillin G, Ceftriaxone; 25% had intermediate resistance to Ceftiofur and 12.5% Ceftriaxone. While 50% were sensitive to penicillin G, Ampicillin, 37.5% Ceftiofur and 75% Ceftriaxone. Among the 5 *Streptococcus spp.* strains it was found that 80% were resistant Ampicillin and 60% Penicillin G. There was obtained 40% Penicillin G sensitivity, and 100% Ceftiofur and ceftriaxone. However, for the 2 *E. coli* strains it was found that 50% were resistant to Ampicillin and 100% Penicillin G. Ceftiofur 50% intermediate resistance, as for the sensitivity was 50% Ceftiofur and Ceftriaxone 100%. The indiscriminate use of antibiotics leads to resistance and therefore decreases the health and quality of milk, causing various economic losses. We emphasize the importance of identifying the microorganism, for thus can indicate the correct antibiotic for the treatment of disease. Therefore, in this study it was noted that the Penicillin G, besides being one of the most widely used drugs in veterinary medicine for the treatment of mastitis showed greater resistance to micro-organisms, due to indiscriminate use.

**Key words:** Antibiotics, Bacteria, Resistance, Penicillin G.