

TITLE: ANTIBIOTIC SUSCEPTIBILITY OF BACTERIA ISOLATED FROM THE CONJUNCTIVAL SAC OF BEEF AND DAIRY CATTLE OF THE CITY OF SANTO ANTÔNIO DO LEVEGER, MT

AUTHORS: MAGALHAES, T.B.S.; KAGUEYAMA, F.C.; MATOS, R.L.A.V.; AMORIM, T.M ; DUTRA,V.; RIBEIRO, A.P.

INSTITUTION: FACULDADE DE VETERINÁRIA, UNIVERSIDADE FEDERAL DE MATO GROSSO (AV. FERNANDO CORRÊA DA COSTA S/N, COXIPÓ, CUIABÁ, MT 78068-900, BRASIL)

The purpose of this study was to analyze antibiotic susceptibility of bacteria isolated from the conjunctival sac of beef and dairy cattle of Santo Antônio do Leveger, MT. Samples for microbiology were obtained by means of sterile swab from one of the eyes of healthy individuals raised for dairy (n=39) and beef (n=34) purposes, allocated in different properties. Only individuals with no previous treatment with antibiotics for at least 2 weeks were included in the study. Bacterial isolates were identified and susceptibility was tested for 12 different antibiotics. In dairy and beef cattle, 64 and 55 species of bacteria were isolated, respectively. *Bacillus cereus* predominated in dairy cattle (37.5%), followed by *Enterobacter* sp. (28.12%), *Citrobacter* sp. and *Pseudomonas* sp. (14.06%), and *Escherichia coli* (6.25%). In beef cattle, the most common isolate was *Escherichia coli* (18/55), followed by *Bacillus cereus* (21.81%), *Staphylococcus* sp. (14.54%), *Proteus mirabilis* and *Pseudomonas* sp. (7.27%), *Enterobacter* sp. (5.45%), *Citrobacter* sp. (5.45%), and *Proteus vulgaris* (5.45%). The number of gram-positive (37 in dairy; 20 in beef) and -negative isolates (40 in dairy; 35 beef) did not differ significantly ($P = 0.18$). Species isolated in dairy cattle were more sensitive to the aminoglycosides gentamicin (98.43%), followed by tobramycin (95.31%), and amikacin (93.75%) ($P > 0.05$). In this group, gentamicin was significantly most efficient than oxacillin, clindamycin, ceftiofur, chloramphenicol, florfenicol, tetracycline, moxifloxacin ($P < 0.0001$), ofloxacin ($P = 0.0002$), and ciprofloxacin ($P = 0.0043$). Species isolated in beef cattle were more sensitive to ofloxacin (87.27%), followed by gentamicin (85.45%), ciprofloxacin (83.63%), and moxifloxacin ($P > 0.05$). In this group, ofloxacin was significantly most efficient than oxacillin, clindamycin, ceftiofur, florfenicol, tetracycline ($P < 0.0001$), chloramphenicol ($P = 0.0003$), and tobramycin ($P = 0.021$). In this study, *Pseudomonas* sp. was the most resistant agent found in dairy and beef cattle. Gentamicin and ofloxacin were found to be effective against the majority of isolates, in dairy and beef cattle, respectively. These results can guide the empirical selection antimicrobial therapy for infections of the ocular surface in dairy and beef cattle, pending the identification of the etiologic agent.

Keywords: swab, antibiogram, eye, bovine