

TITLE: DRUG RESISTANT BACTERIA ISOLATED FROM VETERINARY HOSPITAL ENVIRONMENT

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ABSTRACT: Veterinary hospitals can become reservoirs of micro-organisms that cause nosocomial infections as well as multidrug-resistant agents. Usually in these environments there is a great circulation of both people and animals, particularly this enables the frank dissemination of these resistant microorganisms among the healthy population (human and animal). Another important aspect is that veterinary staff and professionals are frequently exposed to zoonotic micro-organisms due to contact with sick or healthy animals. About antibiotics they are widely used in the treatment of infectious diseases in humans and animals, but the emergence of antibiotic resistance in previously susceptible bacterial populations is a very serious threat and now a major public health problem. The emergence and spread of resistance to antibiotics must therefore be fully understood to take appropriate actions. Characterizing this bacterial population becomes extremely important, so it was the objective of this work to identify extended spectrum beta-lactamases production *Escherichia coli* (ESBL) and methicillin-resistant *Staphylococcus aureus* (MRSA), circulating in a Veterinary Hospital environment. Samples were collected through drag-swabs of materials and equipment at the hospital. The sample collections were performed 9 times in periods not less than 30 days between each collection. Of the 276 samples collected, 310 bacterial strains were isolated. Among these, 21 strains of *S. aureus*, 59 strains of coagulase-negative staphylococci (CoNS) and 7 strains of *E. coli* were identified. Susceptibility testing for confirmation of methicillin resistance was done by the disk diffusion method with 30- μ g-cefoxitin disks according to the guidelines of the Clinical and Laboratory Standards Institute (CLSI), and the ESBL detection was made according NCCLS (1997). From 21 strains of *S. aureus* found, 2 (9.5%, 2/21) were methicillin resistant, while among the strains of CoNS, 5 (8.5%, 5/59) were resistant, whereas no strains of *E. coli* has been shown to produce beta-lactamases. Circulation of *S. aureus* methicillin resistant, as well as resistant CoNS, indicates that highly resistant strains can be carried by the veterinary hospital environment, so containment and control measures should be implemented.

Keywords: MRSA, ESBL, nosocomial infections, bacterial drug resistance.