

TITLE: MULTIDRUG-RESISTANT *Acinetobacter calcoaceticus*- *Acinetobacter baumannii* (ACB) COMPLEX FROM CLINICAL VETERINARY SAMPLES

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ABSTRACT:

The World Health Organization (WHO) has considered the emergence and spread of antimicrobials resistance as one of the three major threats to public health in the 21st century. Among these, bacteria of the complex *Acinetobacter calcoaceticus* - *Acinetobacter baumannii* (Acb), has been considered of great importance in the clinical scenario. The present study aimed to evaluate the occurrence of multidrug-resistant (MDR) in strains of Acb complex isolated from veterinary clinical samples. MALDI-TOF and genotypic techniques performed the characterization of *Acinetobacter* spp. Fifteen strains were identified as *Acinetobacter* at species level (9 *Acinetobacter pittii*, 5 *Acinetobacter baumannii*, and 1 *Acinetobacter nosocomialis*). The multidrug-resistant (MDR) detection was performed by disk diffusion test with the following antimicrobials: Ceftazidime, Cefepime, Gentamicin, Ceftriaxone, Imipenem, Sulfamethoxazole, Ciprofloxacin, Levofloxacin, Ampicillin + sulbactam, Amikacin and Meropenem. The isolates were classified as MDR if they exhibited resistance at least one agent in three or more different classes. The results revealed that 46,6% (7/15) strains were classified as MDR, of which, 57,1% (4/7) were *Acinetobacter baumannii*, 28,6% (2/7) were *Acinetobacter pittii* and 14,3% (1/7) *Acinetobacter nosocomialis*. The literature reports the occurrence of *A. baumannii* strains resistant to different classes of available antimicrobials available and frequently related to animal infectious conditions. However, few studies reported the occurrence of other species of Acb complex causing infection in animals and presenting an MDR pattern. The MDR isolates identified were mainly involved in infections in the urinary tract from cats and dogs, that confirm the actual challenge at clinical veterinary routine. These results reveal the occurrence of species of Acb complex as MDR and reinforce the need to monitor these strains in the veterinary environment for the adoption of adequate control measures and treatment.

Keywords: Acb complex; multidrug resistance and public health.

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