TITLE: CHALLENGES IN THE IMPLEMENTATION OF THE NEW PROCEDURES FOR ANTIBIOTIC SUSCEPTIBILITY ASSAYS IN VETERINARY MEDICINE: THE SALMONELLA CASE.

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ABSTRACT: The World Health Organization (WHO) has published a list of priority pathogens of multiresistant bacteria. Among them, resistant-fluoroquinolones *Salmonella* spp strains figure as high priority ones. Salmonellosis is a unique health problem, being a major cause of gastrointestinal diseases, diarrhea, pneumonia, blood infection, and meningitis. *Salmonella* spp has more than 2,500 serotypes, whose predominance varies according to animal species, region, and time of year. The increasingly high number of human and animal infections by Salmonella spp and the reports of multiresistant strains points to the critical need to monitor its antimicrobial resistance profile. Since December 2018, the parameters of interpretation for antimicrobial susceptibility tests must be adjusted based on the documents of the Brazilian version of the European Committee on Antimicrobial Susceptibility Testing (EUCAST / BrCAST version). When analyzing resistance in Salmonella spp strains, it was observed a profound lack of specific information for veterinary clinical samples in this document that makes it very difficult to interpret the results obtained from the disc diffusion antibiograms. In BRCast there is only resistance data for the whole Enterobacteriaceae family and also a lack of several antimicrobials. Enrofloxacin, an antimicrobial developed for use in veterinary medicine, and azithromycin have no cut-off reference. When comparing BrCAST with Clinical and Laboratory Standards Institute (CLSI) there is a difference of even 6 mm, such as, for example, ciprofloxacin, that is sensitive using BrCAST scale if it presents a halo higher than 25 mm, but for CLSI, to be considered sensitive it must present a halo higher than 31mm. For cefotaxime, BrCAST points out that resistance criterium is a halo lower than 17 mm while CLSI considers that resistant strains must present a halo lower than 22 mm. Given this, it is evident that interpretative errors will occur, once the information in both manuals is so discrepant. This comparative analysis aims to express our concern about the precariousness of routine veterinary diagnosis and the risk to implement general criteria based on human manuals.

Keywords: antimicrobial resistance, routine veterinary diagnosis, salmonellosis, BrCAST, CLSI

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