

Antimicrobial activity on strains of *Escherichia coli* isolated from several clinical samples

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ABSTRACT

Escherichia coli is the most isolated bacterium in clinical laboratories and is implicated in infectious diseases that affect practically all tissues and organ systems of human beings. In view of the clinical importance of this bacterium, this research aimed to determine the susceptibility of seven strains of *Escherichia coli* (LFBM *Ec* 01, LFBM *Ec* 02, LFBM *Ec* 05, LFBM *Ec* 06, LFBM *Ec* 07, LFBM *Ec* 09, LFBM *Ec* 10) isolated from catheterized patients and one from the *American Type Culture Collection* (ATCC 25922) ampicillin, levofloxacin, cephalothin, nitrofurantoin, and cefotaxime. The antibiogram was performed in accordance with the recommendations of BrCast 2020 for the solid media diffusion method. β -lactam antibiotics (ampicillin and cefotaxime) were able to inhibit the growth of all strains except LFBM *Ec* 01, LFBM *Ec* 06 and LFBM *Ec* 10. Cephalothin was effective in all strains with the exception of LFBM *Ec* 01, LFBM *Ec* 05, LFBM *Ec* 06, LFBM *Ec* 09 and LFBM *Ec* 10. The LFBM *Ec* 01 and LFBM *Ec* 10 strains were the only ones that resisted the action of levofloxacin. All strains were sensitive to the action of nitrofurantoin, except LFBM *Ec* 01, which showed an intermediate sensitivity. Of the seven strains of *Escherichia coli*, five (LFBM *Ec* 01, LFBM *Ec* 05, LFBM *Ec* 06, LFBM *Ec* 09 and LFBM *Ec* 10) were resistant to any β -lactam used. These antimicrobials are the clinical choice for the treatment of infections caused by *Escherichia coli*. This study will continue with the determination of the minimum inhibitory concentration and the study of the interaction between these antimicrobials.

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