Title: CORRELATION BETWEEN THE PRESENCE OF EXTENDED SPECTRUM β-LACTAMASES IN *ESCHERICHIA COLI* CLINICAL ISOLATES WITH NORFLOXACIN RESISTANCE

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Abstract:
The frequent and indiscriminate use of antibiotics in the modern medicine has determined the increase of bacterial resistance, interfering with effective therapy of infections caused by these microorganisms. The urinary tract infection (UTI) has a high prevalence in the community, and is one of most common causes of nosocomial infections. These infections can be worsened with the presence of extended spectrum β-lactamases (ESBL), which provide resistance to betalactamics drugs. This study evaluated the association between the presence of ESBL's and the resistance to norfloxacina in *Escherichia coli* isolate from patiants with UTI's. For conducting this study, *E. coli* samples from patients with UTI's attended at the University Hospital Miguel Riet Côrres Jr., which were submitted to microdilution test broth, as the CLSI (2012) to obtain the minimal inhibitory concentrations (MIC). For the associated, were estimated the MIC for norfloxacin against strains of *E. coli* and the presence/absence of ESBL detected by the automated system Phoenix®. Data analysis was verified using the SPSS 20.0 program, which were calculated the odds ratio, the confidence intervals and obtaining the p value by X^2 test, in addition to the relative risk values. From the results, we found four times greater the relative risk (RR=4.2) to present norfofloxacin resistance in ESBL strains than in non-ESBL strains. For the odds ratio value, obtained 3.96 (95%CI: 2.0-7.8), with a significant p=0.001 value. This finding shows the reduction of therapeutical options in presence of ESBL, because the fluoroquinolones are indicated by ANVISA as an alternative therapy in cases of infections caused by strains containing ESBL's. It follows that in this environment and with these clinical isolates there was a strong association of ESBL and norfloxacina resistance, allowing inferring that although the molecular basis of resistance to be different for betactamics and fluoroquinolones drugs, they may be expressed simultaneously, possibly they are encoded in the same mobile genetic element

Keywords: fluoroquinolones, ESBL, risk factors

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