

TITLE: FREQUENCY AND ANTIMICROBIAL RESISTANCE PROFILE OF *ENTEROBACTERIACEAE* ISOLATED FROM ULCERS IN DIABETIC FOOT INFECTIONS AT A TERTIARY TEACHING HOSPITAL

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ABSTRACT:

Diabetic Foot infections are common, complex, expensive and important causes of hospitalization of patients with diabetes. These infections are the leading cause of patient morbidity and are associated with lower limb amputation. Antimicrobial resistance has significant implications in empirical therapy because delay in appropriate antimicrobial therapy is associated with worse patient outcomes in patients with *Enterobacteriaceae* infections. The aim of this study was to evaluate the frequency and antimicrobial susceptibility of *Enterobacteriaceae* isolated from ulcers in diabetic foot. A total of 126 cultures of 76 diabetic patients were analyzed by Vitek ® 2 system, and 49 (38.8%) enteric rods were isolated being 11 (23.6%) *Proteus mirabilis*, 11 (23.6%) *Escherichia coli*, 11 (23.6%) *Morganella morganii*, 11 (23.6%) *Klebsiella pneumoniae*, and 5 (5.4%) *Serratia marcescens*. All *P. mirabilis* strains were resistant to colistin, and almost all of them to tigecycline. On the other hand, all *P. mirabilis* strains were sensitive to carbapenems and 90% sensitive to amikacin. Around 90% and 80% of *E. coli* and *K. pneumoniae* strains demonstrated resistance to all third generation cephalosporins tested and ciprofloxacin, respectively. In addition, 90% of *E. coli* and *K. pneumoniae* isolates were sensitive to carbapenems. All *M. morganii* strains were resistant to tigecycline, cefuroxime and colistin, and sensitive to amikacin, imipenem, meropenem, and tazobactam. In relation to *S. marcescens* strains, all were resistant to sulbactam, colistin and cefuroxime, but sensitive to amikacin, ertapenem, imipenem, and meropenem. Furthermore, 42.85% of the strains analyzed presented positive ESBL phenotype. These results demonstrated high frequency of enteric rods in diabetic foot wounds and a significant number of MDR isolates were also observed. Therefore, delayed referral and inappropriate use of broad spectrum antibiotics may be the main cause of increase in the frequency of MDR isolates in these patients.

Keywords: Antimicrobial resistance; diabetic foot; *Enterobacteriaceae*; frequency; teaching hospital.

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