

Title: MICROBIOLOGICAL EVALUATION IN PATIENTS WITH DIABETIC FOOT INJURY

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Abstract:

Diabetic foot is defined as any infection, ulceration or deep tissue destruction associated with neurological disorders and various degrees of peripheral vascular disease of the lower limbs. Diabetics are more susceptible to podalic infections due to decreased glucose which is caused by lack of circulating insulin, developing problems on multiple systems. This modification is the main cause of the feet of diabetic complications including infection by micro-organisms. The research aimed to isolate pathogenic micro-organisms in patients with diabetic foot lesions and determine the susceptibility profile of these microorganisms in their antimicrobials. The study was approved by the Ethics Committee in Research of the Center for Advanced Studies Caxias-Ma (CESC-UEMA) with serial number 809 407 protocol. Clinical specimens were obtained from patients treated at the General Hospital in the city of Caxias, MA. The samples were obtained from 20 patients with lesions in the staging of severe type, 13 males and 7 females. Isolation of the microorganisms was carried out in culture media blood agar agar and eosin methylene blue. The identification of bacterial strains were performed by biochemical tests and media modified Rugai. The susceptibility profile was determined by the method of Kirby & Bauer, following parameter CLSI, 2014. As for the results obtained in the survey, the most isolated bacterial strains were *Klebsiella pneumoniae* with 10 isolates (50%), *Pseudomonas aeruginosa* and *Enterobacter* spp each with 3 isolates (15%) and *Escherichia coli* with 2 isolates (10%). The *K. pneumoniae* is the most frequently isolated microorganisms in biological materials in humans. This routine condition, there is the fact that it is a member belonging to fecal normal microbiota of humans and adapt easily to different environments. Regarding susceptibility profiles antimicrobial tested and presented by microorganisms isolated in clinical samples, they were diversified. The strains of *K. pneumoniae* were the most presented antimicrobial resistance, especially to cephalosporins and some monobactams. Therefore, patients with diabetic foot ulcers are potential sites to contamination by pathogenic micro-organisms. The highest prevalence of isolated and identified microorganisms was enterobacteria, especially the *K. pneumoniae*.

Keywords: isolation, micro-organisms, diabetic foot, susceptibility

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