( ) R1 ( ) R2 ( ) R3 ( ) PG0 (X) PG1 ( ) Estagiário ( ) Tecnólogo ( ) PIBIC Last Name - Dias Dourado First Name - Adália Middle - Oliveira

Service (sector) Cornea and External Disease Nº CEP 0635/04

In Vitro Activity of Fluoroquinolones against Ocular Bacterial Isolates in São Paulo, Brazil." Oliveira ADD, d'Azevedo PA, Francisco W, Sousa LB, Höfling-Lima AL

Objective: To compare the ¨in vitro¨ susceptibility profiles of bacterial ocular isolates and to determine minimum inhibitory concentrations (MICs) of gatifloxacin and moxifloxacin (4th-generation) vs. ciprofloxacin and ofloxacin (2nd-generation). Methods: Ocular isolates were recovered, identified and extracted from cases of keratitis, conjunctivitis and endophthalmitis between 2002 and 2004, at the Microbiology Data Bank of UNIFESP. The comparison of MICs and susceptibility profiles for ofloxacin, ciprofloxacin, gatifloxacin and moxifloxacin in Gram-positive and negative (n = 219) isolates was performed using the E test methodology. Results: The 4th-generation fluoroquinolones were statistically more potent than the 2nd-generation for Gram-positive bacteria. The MIC90 level was lower for moxifloxacin than that for gatifloxacin against S. aureus, methicillin-susceptible coagulase-negative Staphylococcus (CoNS) and St. pneumoniae, while the levels were equal against St. viridans and the gatifloxacin MIC90 was lower in methicillin-resistant CoNS. There was no statistically significant difference between moxifloxacin and gatifloxacin when the permutation method from the MULTTEST procedure (SAS proc multtest) was used to obtain the adjusted P value. MIC90 for ciprofloxacin was lower in Gram-negative bacteria. MIC90 for ofloxacin was higher against Haemophillus spp. and Moraxella spp. Ciprofloxacin were the most statistically potent fluoroquinolone for Pseudomonas spp. Ciprofloxacin was statistically just as potent as gatifloxacin for the other Gram-negative isolates. Conclusion: Based on susceptibility profiles achieved with in vitro testing, the fourth-generation fluoroquinolones may offer some advantages over the currently available fluoroquinolones, however, a combination of the pharmacodynamics and pharmacokinetics of the drug, infection site, and the MIC is needed to predict the in vivo efficacy and best clinical applicability.