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Service (sector)

Cornea and External Disease

Nº CEP

### **A two-year retrospective study of fungal and bacterial Keratitis treated in a tertiary care service.**

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Purpose: To examine the main clinical and microbiological characteristics of seventy-eight cases referred to the corneal and External Diseases Sector of Paulista School of Medicine during a two-year period who were diagnosed and treated as either bacterial or fungal keratitis.

Methods: A retrospective chart review of the new patients consecutively admitted from June 1998 until June 2000 was carried out. Patients with infectious Keratitis of suspected or confirmed etiology other than bacterial and fungal were excluded. All cases were initially treated empirically with a regimen of broad-spectrum antibacterial drugs. According to result of microbiological work-up, patients were distributed into four groups: Bacterial-positive; fungal-positive; culture-negative; and those without microbiologic investigation done. Risk factors, main clinical and laboratory data, surgical and pharmacological treatment are the main issue of analysis. Comparison among groups was performed applying non parametric variance analysis (Kruskal-Wallis Test).

Results: One thousand and five hundred and eight-five new patients charts were reviewed, disclosing 205 (12.9%) cases of infectious Keratitis, of which 117 were presumed to be herpetic infection, and 10 were diagnosed as parasitic infection. The remaining 78(4,9%) were included in this study because had microbiological investigation done. A bacterium was identified in 40.5% and fungi in 25.7% of the specimen studied. A negative culture was found in 25 cases (33.8%). Overall the most frequently identified organisms was fusarium sp (20.3%), Pseudomonas sp. (10.8%), and Staphylococcus aureus (8.1%). Seventy-four patients (94.8%) had their first microbiological work-up done at our institution, despite the fact that the mean time since presenting symptoms was 22.1 days for the entire group. Forty-six patients (59.0%) had been using at least one eye-drop, of which 17 were on corticosteroid prior to our first evaluation. A high positive correlation between direct examination and culture was found for both bacterial (93.3%) and fungal infection (94.8%). The duration of presenting symptoms, time of treatment prior to admission, time to achieve cure, follow-up time, surgical indication, and treatment failure were significantly higher for fungal infection compared to the bacterial group ( $p, 0.05$ ).

Conclusion: Compliance with recommended practice in the care of corneal ulcers seems to be poor in São Paulo and surrounding area. Most patients were referred after a long time of empirical treatment. Gram stain allowed correct therapeutic decision in the majority of cases. Fungal infection was more aggressive compared to bacterial and culture negative cases.