

Research Article

A New Combination Formula for Treatment of Fungal Keratitis: An Experimental Study

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Objective. To formulate and evaluate slow release ketoconazole and ketorolac to treat fungal keratitis and associated inflammation. *Methods.* Experimental study with the following outcome measures. *Pharmaceutical Evaluation.* Mucoadhesive gels containing ketoconazole and ketorolac were used. *Microbiological in vitro evaluation* was performed using cup method. *In vivo evaluation* was performed on 24 rabbits divided into 2 groups, 12 rabbits each, group A (fast release formula; 6 times daily) and group B (slow release formula; 3 times daily). Each group was divided into two subgroups (6 rabbits each). Both eyes of rabbits were inoculated with *Candida albicans*. The left eye of all rabbits received the combination formulae. The right eye for one subgroup received ketoconazole as control 1 while the other subgroup received placebo as control 2. Clinical follow-up was done and, finally, the corneas were used for microbiological and pathological evaluation. *Results.* Gels containing high polymer concentration showed both high viscosity and mucoadhesion properties with slower drug release. The infected eyes treated with slow release formula containing both drugs showed better curing of the cornea and pathologically less inflammation than eyes treated with fast release formula. *Conclusion.* Slow release formula containing ketoconazole and ketorolac showed higher activity than fast release formula against fungal keratitis and associated inflammation.