PREPARATION AND EVALUATION OF ANTI-BACTERIAL OCULAR INSERT CONTAINING LEVOFLOXACIN AND TINIDAZOLE FOR THE MANAGEMENT OF BACTERIAL KERATITIS

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ABSTRACT

Bacterial conjunctivitis is one of the common eye infections, especially in developing countries, and is usually treated using eye drops and ointments. Occasionally complex bacterial infections require the use of multiple antibiotics, which is an issue when applied as eye drops. An interval of at least 10 minutes must be placed between each drug and the eye will be exposed to double the amount of preservatives. The aim of our research was to formulate two antibiotics (levofloxacin and tinidazole) for simultaneous ocular delivery with no preservative applied by the use of solid ocular inserts approach. A number of formulations were employed, with the primary polymer being polyvinyl alcohol, blends of polymers included PVP, Carbopol 934, and NaCMC, propylene glycol serving as a plasticizer and antibacterial agents including levofloxacin and tinidazole. Using the solvent casting process, several formulations were created, and their weight uniformity, thickness, drug content, pH, *in vitro* drug release and kinetics were assessed. The solid insert formulation of levofloxacin and tinidazole allowed for the sustained release of both medications for approximately 24 h.