



Design and Evaluation of Novel Emulgel Containing Acyclovir for Herpes Simplex Keratitis

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SUMMARY. The objective of the present research was to develop acyclovir ophthalmic emulgels using different polymers such as Pluronic F 127 (PF 127), Gelrite, Carbopol 934P, hydroxypropylmethylcellulose (HPMC K100M) and sodium carboxymethylcellulose (Na CMC). The prepared emulgel formulations were subjected for *in vitro* characterization. All the prepared emulgels showed acceptable physical properties concerning color, homogeneity, consistency, pH value and osmolality. Water absorption studies of formulations containing pluronic F 127 showed lesser water absorption in comparison to other formulations. All the formulations showed shear thinning pseudo plastic behavior. The formulation containing pluronic F 127 of 22 % showed higher viscosity. No significant release difference was observed between *in vitro* release and *ex vivo* release using goat cornea. The rate of drug release from all the emulgels was found to be non fickian (anomalous) release. There was no macroscopic evidence of microbial growth in the media; hence it passes the test for sterility. Ocular irritation studies done on rabbits indicated that all formulations were non irritant and did not cause inflammation. Stability studies showed that the prepared emulgels remained unchanged upon storage for 3 months at refrigerated temperature (4-8 °C).

KEY WORDS: Acyclovir, Herpes simplex keratitis, Emulgels, Pluronic F 127.

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