

Revolutionizing Eye Care: A Review of Modern Ocular Drug Delivery Strategies

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Abstract: *The major challenge faced by today's pharmacologist and formulation scientist is ocular drug delivery. Topical eye drops are the most convenient and patient-compliant route of drug administration, especially for the treatment of anterior segment diseases. Delivery of drugs to the targeted ocular tissues is restricted by various precorneal, dynamic and static ocular barriers. Also, therapeutic drug levels are not maintained for a longer duration in target tissues. In the past two decades, ocular drug delivery research has rapidly advanced towards developing a novel, safe and patient-compliant formulation and drug delivery devices/techniques, which may surpass these barriers and maintain drug levels in tissues. Anterior segment drug delivery advances are witnessed by the modulation of conventional topical solutions with permeation and viscosity enhancers. Also, it includes development of conventional topical formulations such as suspensions, emulsions and ointments.*

Keywords: Cornea; Emulsions; Implants; Liposome; Nanomicelles

