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Design and Fabrication of Ocular Drug Delivery System (ODDS): Nanoparticles an advance role in Anterior Segment Delivery ASD

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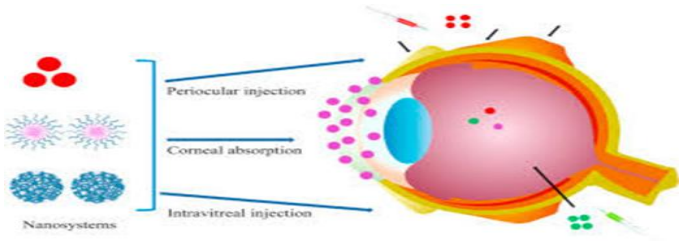
Abstract

Ocular drug delivery still a challenging practice an attempt made to overcome the conventional dosage form with improving the Bioavailability and Concerning Therapeutic desired rate of Anterior Segment Delivery. Drug Delivery to the eye still a challenging practice to overcome Nanoparticles incorporating for optimal Therapeutic activity, as drug molecules treated with the nanoparticles which help to cross from ocular barriers without causing permanent tissue damage. At present availability for the Ocular Anterior segment delivery the conventional dosage forms available with their limitations Bioavailability rate for example solutions, suspensions and some ointments, while novel dosage forms playing important role for achieving more percentage of Bioavailability and rate of absorption without causing optical irritation, for example liposomes, nanoparticles, and implants. Aim of this work also come under the conclusion 80% to 90% of the available formulations present in the market are conventional dosage forms, and they have limited bioavailability due to precorneal clearance and very short duration of action while novel drug delivery system Nanoparticles possess advanced drug delivery medium. On study of certain literature review study conclusion found that major researcher is going with the development of sustained release and control release systems with higher precorneal Bioavailability. Such systems can improve the ocular bioavailability of drugs and provide high patient compliance. With going through several literature review study found therapy into an eyes either by solutions, ointments dropping deteriorating by age, but nanoparticles like micelle, liposomes, Nano sponge's and dendrimers hydrogel concluded efficient medium for chitosan, hyaluronic acids and antiglaucoma and these novel formulation have ability to deliver drugs in sustain and control release of medicaments. objective of this review is by using nanoparticles overcome the barriers of Ocular Anterior segment delivery with increase and optimistic Bioavailability with crossing Ocular barriers.



Biography:

Deepesh Lall has curiosity for the development and design of formulation which have much increased Bioavailability and optimistic rate of absorption. I am from starting wanted to overcome several disadvantage of conventional dosage form of Medicament, give an good outcome with novel drug delivery system specially Nanoparticles attracted more towards into NDDS. This Review plays an important role in the field of Pharmaceutics.

Speaker Publications:

1. M.L. Occhiutto, F.R. Freitas, R.C. Maranhao, V.P. Costa (2012) Breakdown of the blood–ocular barrier as a strategy for the systemic use of nanosystems Pharmaceutics, 4:252-275
2. A.H. Ward, J.T. Siegwart Jr, M.R. Frost, T.T. Norton (2016) The effect of intravitreal injection of vehicle solutions on form deprivation myopia in tree shrews Exp Eye Res, 145:289-296
3. O. Weijtens, R.C. Schoemaker, F.P. Romijn, A.F. Cohen, E.G. Lentjes, J.C. van Meurs (2016) Intraocular penetration and systemic absorption after topical application of dexamethasone disodium phosphate Ophthalmology, 109:1887-1891
4. H.M. Rivers, C.S. Ray, J.C. Shah, S. Mittal (2015) A new vision for the eye: unmet ocular drug delivery needs Pharm Res, 32:2814-2823
5. Y. Diebold, M. Calonge (2010) Applications of nanoparticles in ophthalmology Prog Retin Eye Res, 29:596-609

21st International Conference and Exhibition on Pharmaceutics & Novel Drug Delivery Systems; Rome, Italy- March 11-12, 2020.

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