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Yashwant Pathak

University of South Florida, USA

Systemic biology approaches to treat age related macular degeneration using nano-particulate drug delivery systems: A review

Age-related macular degeneration (AMD) is the leading cause of irreversible blindness in people 50 years of age or older in the developed world. More than eight million Americans have age-related macular degeneration, and the overall prevalence of advanced age-related macular degeneration is projected to increase by more than 50% by the year 2020. Recent advances in clinical research helps in better understanding of the genetics and pathophysiology of AMD. The systemic biology information which has revealed several mechanisms causing the AMD which can be used for developing new therapies designed to prevent and help treat it the AMD. With the advances in nanotechnology, characterization techniques of nanoparticles and the enormous surface nanoparticles provide if used as a carrier for drug, researches in the ophthalmic drug delivery are gearing towards using these NPDDS (Nano-particulate drug delivery systems) for treating AMD. We have used thermo reversible polymeric gel systems to deliver various drugs which hold promises to treat mitigate and prevent AMD. The review will cover various strategies based on systemic biology of AMD and our efforts to deliver the appropriate drugs to treat various symptoms of AMD using NPDDS.

Biography

Yashwant Pathak has completed his PhD in Pharmaceutical Technology from Nagpur University, India and EMBA and MS in Conflict Management from Sullivan University. He is a Professor and Associate Dean for Faculty Affairs at College of Pharmacy, University of South Florida, Tampa, Florida. He has extensive experience in academia as well as industry, has more than 150 publications and two patents and two patent applications, 16 books including five books in Nanotechnology and five in Nutraceuticals and Drug Delivery Systems.

yvpathak2017@gmail.com

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