

Drug Discovery Meet 2020- The Challenges and Opportunities in Drug Discovery for Ocular Indications (Delivery and New Drugs)

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Abstract :

The eye is a unique organ, exposed to the external environment on one hand, and extension of the central nervous system on the other. Being part of the CNS result in special biochemical conditions, immune-sequestration and immune-privileges to allow proper function. The eye is composed of three distinct compartments: the external ocular surface, the anterior segment, and the posterior segment, each accessible to drugs differently. While the external eye and ocular surface are accessible to drugs applied topically, drug delivery to the retina that is protected by the blood ocular barrier (BOB) is extremely complicated.

This presentation will focus on:

- A review of the different ocular compartments and common related diseases
- The fate of pharmaceutical materials applied as eye drops (pharmacokinetics)
- The challenge of drug penetration to the different ocular compartments
- Repurposing of drugs, approved for other indications, for ocular use
- Development of new chemicals entities dedicated to eye diseases
- New approaches to drug delivery into the eyeball (bypassing BOB and cornea)

Common systemic diseases and their manifestations in the eye (Diabetes, Hypertension and Vascular indications) will also be compared to ocular specific diseases (Glaucoma and AMD) via the prism of drug development. The presentation will touch upon unmet medical needs and unique opportunities, while reviewing the limitations and challenges in drug development for ocular indications.

Biography:

Tel-Aviv University Medical School graduate, Magna Cum Laude. Residency in Ophthalmology affiliated to the Hebrew University. Clinical and research fellowship at the Harvard University program for inflammatory eye diseases. Twenty-five years of clinical experience in uveitis, autoimmune and allergic conditions. Headed the global medical affair group at Teva Pharmaceutical Ltd for ten years (2002-2012) followed by leading the Ophthalmology Therapeutic Area at the global R& D group at Teva (2013-2016). Currently, consulting to various pharma companies. Founded and serves as a co-chairperson of the International Symposium of Ocular Pharmacology and Therapeutics (ISOPT Clinical). www.isoptclinical.com

Note: This work is partly presented at 10th international conference on Advanced Drug Discovery and Drug Delivery (London UK, July 15th)