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# DRY EYE PREVENTION AND MANAGEMENT STRATEGIES IN CLINICAL PRACTICE



Dr. Khairidzan Mohd Kamal, Associate Professor and Director of the Cornea, External Disease and Refractive Surgery Section of the International Islamic

University Malaysia (IIUM) Eye Specialist Clinic, delivered a lecture entitled: "Dry Eye- Prevention and Management Strategies in Clinical Practice."

The talk began by Dr. Khairidzan discussing the ocular surface and its different components with special emphasis given to the importance of the conjunctiva and cornea. The conjunctiva which can further be subdivided into palpebral, forniceal and bulbar parts, together with the corneal epithelium help maintain ocular surface health. Although tear production is mainly performed by the lacrimal glands, a healthy ocular surface is needed to confer tear stability and proper tear film function.

The existence of several risk factors in a patient who undergoes ocular surgery would destabilize the physiological and functional harmony of the ocular surface in maintaining the stability of tearfilm. Cataract removal procedure which is performed widely by ophthalmologists, involves creating corneal incisions and conjunctival

handling. Adjunctive procedures associated with this surgery such as topical eye drops, antiseptic solutions and application of lid speculums also create micro-damages to the ocular surface tissues which all inevitably contribute to dry eye development.

Dr. Khairidzan then proceeded to discuss the core mechanisms of dry eye: tear instability, tear hyperosmolarity, cell death and inflammation. These components make up the "vicious cycle" of dry eye which needs to be broken in order to provide a permanent and lasting cure.

Breaking the vicious cycle of dry eye involves various treatment strategies based on the aetiology and disease severity. The severity scale, recommended by the Dry Eye Workshop (DEWS) group, takes into account patient's symptoms (discomfort and visual changes) as well as ocular signs (conjunctival injection, staining, tear break up time, Schirmer scores and appearance of the lid and meibomian glands). Currently, several therapeutic options are available which include tear supplementation, anti-inflammatory drops, essential fatty acids, tetracyclines and punctal plugs. Ultimately, the goal of all treatments is to restore normality and stability to the tear film and ocular surface.



Despite the numerous treatment options, management always begins with artificial tears or lubricants. Lubricants represent the cornerstone of dry eye treatment. All patients, regardless of disease severity or its aetiological basis will benefit from tear supplementation.

Dr. Khairidzan closed his talk by presenting studies to show effectiveness of two leading lubricant agents-carboxymethyl cellulose (CMC) and hyaluronic acid (HA)- in treating dry eye disease in post-cataract surgery patients.

Different lubricant drop formulations have used both HA and CMC separately, as individual ingredients, with relative success. Recently, however, Allergan launched the first and only dual-polymer lubricant drop containing both CMC and HA. With this formulation, patients can gain the benefits of both CMC and HA with the convenience of having the two agents in a single bottle. The launch of this lubricant formulation is a testament to continuous innovation in drop technology bringing us a step closer to the ideal dry eye cure.