Going beyond topical: Oral medications for the treatment of severe ocular surface disease and dry eye syndrome

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Ocular surface diseases, including troublesome dry eye, make up a large part of the population that seeks treatment from eye care providers. Treating the ocular surface is a key step en route to restoring compromised conjunctival and corneal epithelium due to various issues, including dry eye and other inflammatory conditions such as blepharitis, allergy, autoimmune and other systemic diseases.1,2

While there are a multitude of topical agents routinely used, oral agents can also be effective when topical management alone is not sufficient. Oral medications can be used in conjunction with topical agents or alone as the primary choice. A few of the most common include:

- **Essential Fatty Acids** (EFAs; Omega-3 fatty acids). EFAs can be found in fish oils, squid oil and some plant oils such as flaxseed. EFAs are the precursors of eicosanoids, which are locally acting hormones that mediate the inflammatory process.3 Many studies have demonstrated the anti-inflammatory impact of orally administered EFAs on the ocular surface as well as have shown a benefit in the modification of pain associated symptoms.4,5

- **Secretagogues** (Pilocarpine and Cevimeline). Most often used in patients with a systemic etiology to their ocular surface disease, such as Sjogrens or other autoimmune diseases, this class of oral medications help increase gland-based secretions (e.g., lacrimal and salivary).6,7 This is accomplished by activating M3 receptors of the parasympathetic nervous system, which in turn stimulates secretion from glands. Increased lacrimal production with these agents is shown to be safe and effective in improving symptoms in patients with ocular surface disease (although it can sometimes cause unpleasant side effects!).8

- **Anti-inflammatory agents** (Prednisone and Doxycycline). Doxycycline decreases matrix metalloproteinase activity and prednisone is converted to Prenisolone by the liver – both of which inhibit the inflammatory cascade in the body (which in turn affects ocular tissue).9 Treatment with Doxycycline has been shown to increase tear break-up time, improve Schirmer testing, and relieve a number of symptoms related to ocular surface diseases.10 Additionally, oral steroids are used in treatment of many severe surface conditions, including dry eye, ocular cicatrical pemphigoid, viral or stromal keratitis, etc.

Broadening the management of ocular surface disease beyond topical agents increases our arsenal of treatment options and allows us to better aid our patients who struggle with both acute and chronic disease.

References:


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