**Tox-ICK!**

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Toxicity is described as damage to the structure of tissue or disturbance of function with or without an accompanying inflammatory response (1). Ocular tissue damage may be a direct result of a drug itself, an accompanying preservative, or from the breakdown of a drug (1). Often, toxic conjunctivitis can be confused with allergic conjunctivitis, especially when considering topical medication use (2-6).

**Toxic Conjunctivitis** (1, 2, 6)
- Can occur after one exposure
- Mixed papillary/follicular response
- Corneal involvement from punctate keratitis to severe ulcerative keratopathy
- Associated dermatitis
- Often inferior (due to Bell’s Phenomenon when applying drops)

**Allergic Conjunctivitis** (1, 2, 6)
- Tends to be chronic
- Papillary response
- Cornea typically unaffected
- Primary symptom of itching

Preservatives such as BAK, chlorobutanol and thimerosal are often found in topical medications and can cause adverse effects even when the drug itself is well tolerated. Frequent and extended use can cause edema, hyperemia, and punctate keratitis (2,7,8).

Anesthetic use can also cause varying degrees of toxic effects. Even a single use for diagnostic purposes may cause stinging and punctate keratitis (2). Anesthetic abuse can cause detrimental effects to the ocular tissue, including corneal epithelial defects and edema as well as stromal edema and infiltrates (9,10).

Other causes of toxic conjunctivitis include, but are not limited to:
- Cosmetics and skin care products (11)
- Hair care products (12)
- Tear gas weapons and lacrimating agents (13)

As with all ocular examinations, a thorough history is important when trying to identify the offending substance. Removal of the offending agent is the first step in managing toxic conjunctivitis as repeated exposures could lead to worsening of the condition. In instances where a topical medication cannot be discontinued, preservative-free or oral preparations should be considered when applicable. Once the culprit is removed, non-preserved lubricants may be helpful with aiding symptomatic relief.

References:


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