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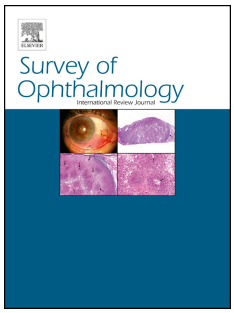

Drug-Induced Corneal Epithelial changes

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DRUG-INDUCED CORNEAL EPITHELIAL CHANGES

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ABSTRACT

Drugs across many pharmacologic classes induce corneal epithelial changes. Many of these drugs have cationic amphiphilic structures, with a hydrophobic ring and hydrophilic cationic amine side chain that allow them to cross cell membranes. These drugs lead to intracellular phospholipid accumulation, often manifested in the cornea by vortex keratopathy, with no effect on visual acuity and few ocular symptoms. Other drugs, notably antineoplastic agents, produce a fine diffuse corneal haze, sometimes accompanied by decreased vision that can be dose limiting. Still other medications cause crystalline epithelial precipitation that might require debridement for resolution. An understanding of the variety of drugs involved, the multiple mechanisms responsible, and the systemic diseases that produce similar changes can lead to improved management strategies for patients with corneal epithelial deposits. In most cases drug therapy need not be modified or discontinued, but if visual acuity is affected, close collaboration with the prescribing physician can result in determining an optimized dose that treats systemic disease and minimizes these deposits. Additionally, close monitoring might be required if the drug is also associated with other ocular findings, such as optic neuropathy or retinopathy.