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Opinion Article

Perforation of Corneal Endothelium and Their Treatment

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ABOUT THE STUDY

The cornea is the clear tissue in the front and center of the eye. Its transparency allows light to pass into the eye, through the pupil, lens, and onto the retina at the back of the eye. The three main layers of the cornea are the outermost layer of the cornea or the epithelium, the middle layer called the stroma, and finally, a single layer of cells called the corneal endothelium. The curvature of the cornea plays an important role in the focusing (refraction or curvature) of light. It helps to protect the eyes from infections and foreign bodies. The causes of corneal disease vary widely. The conditions listed above are caused by genetic (inherited) causes, infections, trauma, autoimmune disorders, nutritional deficiencies, allergies, secondary causes (other eye diseases affecting the affects the cornea), growths and tumors, among other causes. Risk factors also vary depending on the individual's circumstances. Some risk factors cannot be changed, such as inherited genetic diseases. Others can be prevented by limiting exposure to injury and infection.

In many people, prompt treatment of corneal disease in its early stages minimizes the severity of the disease and its complications. Vision problems are diagnosed and treated by an ophthalmologist. For more advanced corneal conditions, especially those requiring surgery, an ophthalmologist or cornea specialist will provide treatment. Additional specialists such as tumor surgeons (ophthalmologists who specialize in eyelid and orbital surgery), rheumatologists, infectious disease and allergy specialists, and others may be consulted when the cornea is secondarily affected by other medical conditions. Treatment is tailored to each disease and individual patient. Infections are treated with eye drops (antibiotics, antivirals, and antiparasitics) and, in some cases, oral medications. Herpes stromal keratitis is a recurrent swelling that develops after a herpes eye infection and is treated with steroid anti-inflammatory eye drops. The abrasion may require a temporary patch or a bandage contact lens, depending on the cause and extent of the injury. Keratoconus, in which the cornea may have a distorted cone shape, is often treated with special contact lenses. Newer treatments, including corneal crosslinking (riboflavin and ultraviolet A) and corneal transplantation, are also options. Advanced keratosis is treated with anterior keratoplasty or corneal transplantation.

Chronic swelling from Fuchs dystrophy or other conditions that damage the endothelial cells in the cornea is first treated with saline eye drops or ointments that help prevent fluid build-up in the cornea. If the condition worsens, keratoplasty (a type of partial thickness graft) may be indicated. Research is underway to develop an artificial cornea for implantation. Autoimmune diseases are best treated by treating the underlying disease. Corneal involvement is usually managed with anti-inflammatory eye drops such as steroids; however, non-steroidal immune modulatory drugs are sometimes preferred, especially when other parts of the body are also involved.

Eye problems caused by vitamin A deficiency, which can be experienced by patients who have suffering from certain types of weight loss, surgery. They can be treated with complementary medicine. Allergic eye disease responds well to topical and oral allergy medications. The pterygium is a growth on the surface of the cornea is most commonly seen after chronic sun exposure. They can be surgically removed if they become uncomfortable. Cancers on the surface of the eye are treated with surgery or, in some cases, with eye drops or injections of topical chemotherapy. Dry eyes are common and can lead to painful erosions of the cornea's surface. In addition to lubricating the eye with artificial tears, it is important to address the underlying cause. In some people, dry skin is caused by a lack of tear production, and anti-inflammatory drops such as cyclosporine (Restasis) or steroids can help. In other cases, dry eyes are caused by the evaporation of tears between blinks. It occurs when the sebaceous glands in the eyelids (meibomian glands) are not working properly. Normally, oil from these glands coats the surface of the eye and prevents tears from evaporating. Sebaceous gland function can be improved with a combination of warm compresses, eye lid hygiene (e.g., diluting an eyelid scrub from a baby shampoo), increasing intake of omega-3 fatty acids, and Some patients, taking oral medication. Many corneal diseases can be prevented by reducing risk factors. For example, maintaining optimal eye health (with good hygiene and regular vaccinations) is the best

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defense against many infectious diseases. For example, there are vaccines available to reduce the severity and frequency of shingles, which can lead to a herpes infection of the eye, called herpes zoster ophthalmic us.

Wearing contact lenses can make people especially susceptible to serious corneal infections, so people should clean their contact lenses as directed. Glasses and sunglasses with 100% UV blocking can protect against growths related to sun exposure, such as pterygium and ocular surface cancers. Safety glasses should be worn when under warranted to prevent trauma. Regular eye exams are important to detect eye diseases in their early stages.