

Fuchs' Corneal Dystrophy

Overview

Fuchs' dystrophy is an inherited condition that affects the delicate inner layer (endothelium) of the **cornea**. The endothelium functions as a pump mechanism, constantly removing fluids from the cornea to maintain its clarity. Patients gradually lose these endothelial cells as the dystrophy progresses. Once lost, the endothelial cells do not grow back, but instead spread out to fill empty spaces. The pump system becomes less efficient, causing corneal clouding, swelling and eventually, reduced vision.

In the early stages, Fuchs' patients notice glare and light sensitivity. As the dystrophy progresses, the vision may seem blurred in the morning and sharper later in the day. This happens because the internal layers of the cornea tend to retain more moisture during sleep that evaporates when the eyes are open. As the dystrophy worsens, the vision becomes continuously blurred.

Fuchs' affects both eyes and is slightly more common among women than men. It generally begins at 30-40 years of age and gradually progresses. If the vision becomes significantly impaired, a **corneal transplant** may be indicated. Sometimes corneal transplant (also known as penetrating keratoplasty or PKP) is performed along with **cataract and intraocular lens implant surgery**.

Signs and Symptoms

- Hazy vision that is often most pronounced in the morning
- Fluctuating vision
- Glare when looking at lights
- Light sensitivity
- Sandy, gritty sensation

Detection and Diagnosis

Fuchs' is detected by examining the cornea with a **slit lamp microscope** that magnifies the endothelial cells thousands of times. The health of the endothelium is evaluated and monitored with **pachymetry** and **specular microscopy**.

Treatment

Fuchs' cannot be cured; however, with certain medications, blurred vision resulting from the corneal swelling can be controlled. Salt solutions such as sodium chloride drops or ointment are often prescribed to draw fluid from the cornea and reduce swelling. Another simple technique that reduces moisture in the cornea is to hold a hair dryer at arm's length, blowing air into the face with the eyes closed. This technique draws moisture from the cornea, temporarily decreases swelling, and improves the vision.

Corneal transplant is indicated when the vision deteriorates to the point that it impairs the patient's ability to function normally.

