Map-Dot-Fingerprint Dystrophy (MDFD)

PATIENT EDUCATION

What is Map-Dot-Fingerprint Dystrophy (MDFD)?

Map Dot Fingerprint Dystrophy is a disease that affects the cornea. It is called Map-Dot-Fingerprint Dystrophy because of microscopic dot and fingerprint-like patterns that form within the layers of the cornea. The cornea is comprised of five layers. MDFD affects the superficial cornea layer called the epithelium. The epithelium's bottom, or basement layer of cells, becomes thickened and uneven. This weakens the bond between the cells and sometimes causes the epithelium to become loosened and slough off in areas. This problem is called corneal erosion. It often affects both eyes and is typically diagnosed after the age of 30. It can progressively worsen with age.

Signs and Symptoms of Map-Dot-Fingerprint Dystrophy

Some patients with MDF Dystrophy have no symptoms at all. The symptoms among patient may vary widely in severity and include:

- Light Sensitivity
- Glare
- Fluctuating vision
- Blurred vision
- Irregular astigmatism (uneven corneal surface)
- Mild to extreme irritation and discomfort in the morning (recurrent erosion)

How is Map-Dot-Finger Dystrophy diagnosed?

The doctor examines the layers of the cornea with a slit lamp microscope. In some cases, corneal topography may be needed to evaluate and monitor astigmatism resulting from the disease.

Treatment Options

The treatment is dependent on the severity of the problem. Most patients do not require any treatment. For those with no symptoms, no treatment is needed. For most patients, the first time they hear about MDFD is when they undergo their cataract surgical evaluation. Sometimes, the measurements are so irregular from the dystrophy that they neec to undergo another proceudre before cataract surgery called a superficial keratectomy. This surgery is performed in order to smooth out the surface of the cornea so we can obtain more accurate measurements for our cataract surgery. This allows us to provide the patient with better vision afterwards.

For those that develop recurrent erosions the first step is to lubricate the cornea with artificial tears to keep the surface smooth and comfortable. Lubricating ointments are recommended at bedtime so the eyes are more comfortable in the morning. Salt solution drops or ointments such as sodium chloride are often prescribed to reduce swelling and improve vision.

For patients with recurrent corneal erosion, soft, bandage contact lenses may be used to keep the eye comfortable and allow the cornea to heal. In some cases, surgical treatment may be beneficial. The surgeon removes the epithelium with a blade or a laser, creating a regular, smooth surface. The epithelium quickly regenerates, usually within a matter of days, forming a better bond with the underlying cell layer.

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