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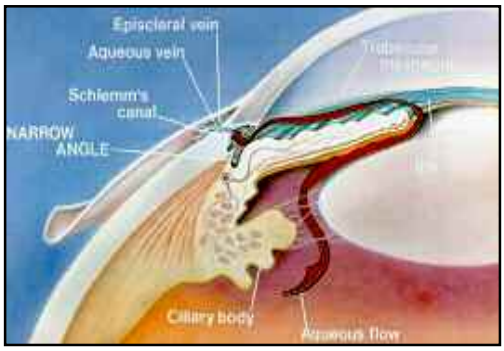
PSEUDOEXFOLIATION SYNDROME AND GLAUCOMA

Background Information

A healthy eye sees as light enters the eye and is focused by the lens onto the back of the eye, the **retina**, creating a sharp image. When the image is transmitted to the brain by the **optic nerve**, the image is interpreted and vision occurs.

Blood travels through the optic nerve in arteries to reach the retina, and is normally drained away out of the eye in veins.

The front part of the eye consists of a clear watery fluid called the **aqueous fluid**. The aqueous is produced in the middle part of the eye (the **ciliary body**) and flows through the pupil, to the front part. It leaves the eye through a drainage system called the **trabecular meshwork**, as it flows out of the eye through veins and into the blood stream. The flow and drainage of this fluid can be obstructed in many ways.



What is Pseudoexfoliation Syndrome?

Pseudoexfoliation Syndrome is characterized by deposits of “pseudoexfoliative material” appearing as many tiny grey-white flake-like deposits on the edge of the pupil, and on the front surface of the lens. This can be seen by your eye doctor, looking at the eye under high magnification with the use of a slit-lamp microscope.

This condition is rarely found before the age of 50 and is commonly noted after 70 years of age. It occurs in one eye but may occur in both eyes and can develop in differing degrees in each eye.

One concern for patients with pseudoexfoliation syndrome is that the fibers that hold the natural lens in place (known as **zonules**) can become weak. Therefore, these individuals have a higher risk for complications during cataract surgery.

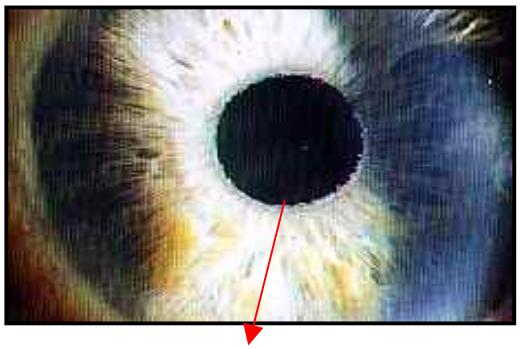


Fig1. Pseudoexfoliative material on the pupillary border.

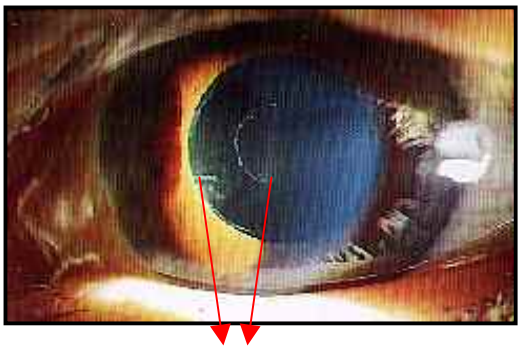


Fig 2. Central disc & a outer band of Pseudoexfoliative material.

What is Pseudoexfoliative Glaucoma?

Pseudoexfoliation syndrome is associated with secondary glaucoma, known as pseudoexfoliative glaucoma. This type of glaucoma is caused by a build-up of deposits of fibrillar material and pigment granules into the trabecular meshwork. This eventually results in obstruction of the flow of aqueous through the trabecular meshwork and also interferes with drainage out of the eye through blood vessels. Consequently, this causes elevation of the eye pressure, which can occur rapidly, reach very high levels and also fluctuate significantly. This may result in severe damage to the optic nerve fibers and loss of vision.

Any individual with pseudoexfoliation syndrome is considered to be at risk of developing glaucoma, even if the pressure in the eye is within the normal range. It is important to have regular eye tests, as you cannot feel any increase in eye pressure and it can only be detected by special pressure tests.

How Can Pseudoexfoliative Glaucoma Be Treated?

An individual with Pseudoexfoliation syndrome without raised pressure requires only to be monitored for signs of glaucoma. However, if the eye pressure increases and it leads to glaucoma, treatment will be necessary to lower the pressure and prevent further damage.

Medical

The initial method of treatment is the use of one or a combination of eye drops, which either slow down the production of aqueous fluid to the eye, or increase the drainage of aqueous fluid from the eye. Although medical treatment may be successful initially, late failure is possible and laser therapy or surgery may be required. Often pseudoexfoliative glaucoma does not respond to medical treatment and surgical procedures may be necessary.

Laser
Laser can be used to treat pseudoexfoliative glaucoma and is usually successful. However, following an initial period of good response, a gradual increase in eye pressure may occur later. Laser treatment with continued use of eye drops is usually effective in maintaining control of the pressure within the eye.

Surgery - Trabeculectomy
If laser treatment fails, filtration surgery can be performed to enable drainage of the aqueous fluid and therefore reduction of eye pressure.