Primary Open Angle Glaucoma-Questions and Answers

In the previous issue of Eyelights we published an overview of different types of glaucoma. This time we focus on Primary Open Angle Glaucoma.

Is Primary Open Angle Glaucoma rare?
No, Primary Open Angle is actually the most common form of glaucoma. It accounts for 60% - 70% of all glaucomas.

What exactly is it?
Primary Open Angle Glaucoma is a disease in which the optic nerve is damaged, usually due to excessive pressure within the eye. Pressure builds up because the eye’s drainage canals have become blocked over time or the tissues around the drainage canals have hardened.

How does it get its name?
Unlike some of the other glaucomas, the angle where the entrances to the drainage canals are located is unobstructed or “open,” and the entrances are usually working correctly. The problem is occurring beyond there, in the drainage canals themselves. This is a bit like the clogging that can occur in the pipe below a kitchen sink even though there’s no problem with the plughole.

What are the symptoms?
There are usually no noticeable symptoms in the early stages. This type of glaucoma develops slowly, and even though vision is gradually being lost this fact may go unnoticed. Blind spots usually first affect the side vision, and people may mistakenly think they are becoming clumsy by bumping into things, when in fact their peripheral vision has diminished.

What kinds of treatment are available?
Treatments are aimed at reducing intraocular eye pressure to avert further damage to the optic nerve. Primary Open Angle Glaucoma usually responds well to medication delivered in the form of eye drops, especially if diagnosed early.

Are there side effects from treatment?
Side effects are possible with all drugs, including glaucoma eye drops. The drug can get into your system by draining through your nose. (See the ‘Punctal Occlusion’ the last issue of Eyelights for tips on how to avoid this.) Communicate clearly with your eye doctor about any symptoms or changes which are causing concern.

The image on the right shows a reduced visual field due to glaucoma
What if the drops prescribed aren’t effective in lowering my intraocular pressure?
There are several families of drugs available and various types within those. Your eye specialist has many options, and will persist until he or she finds the best treatment for you. It is very important that you use your drops exactly as directed and do not skip using them. The drops only work when used. The best chance of achieving good results depends on faithful compliance with treatment instructions and honest communication with your doctor.

Is surgery likely to be a good option?
Sometimes when medication is not proving effective in lowering intraocular pressure surgical procedures such as laser trabeculectomy are considered.

When weighing up options your ophthalmologist will be constantly balancing the benefit to you against the risk, over a lifetime of treatment.

How long must I continue treatment?
You will need to continue treatment and monitoring for the rest of your life.

In our family we tend to get diagnosed late in life. Is there a connection between age and Primary Open Angle Glaucoma?
Yes, Primary Open Angle Glaucoma becomes more likely as we age. This is one reason it is recommended that people over 40 have regular eye examinations. However, Primary Open angle glaucoma is not restricted to middle-aged or elderly people. It also occurs in other age groups.

Scarring - a culprit in Glaucoma surgery failure

Glaucoma filtration surgery, also known as “Trabeculectomy”, involves the formation of a trap-door between the anterior chamber of the eye, where aqueous fluid circulates, and the subconjunctival space just outside the eye-ball. Pressure within the eye gently pushes the aqueous out and a “drainage bleb” results as the aqueous fluid collects on the external aspect of the globe. Eventually this is absorbed by the blood vessels of the eye.

In an ideal world this alternate path of aqueous drainage should last indefinitely, but there is often an excessive inflammatory response at the drainage site. This causes deposition of scar tissue between the conjunctiva and the sclera (eye-ball wall) causing the two layers to stick together. The sub-conjunctival space is lost and the trap door created by the surgery becomes ineffective.

There are a number of factors that predispose to an excessive scarring response which are taken into account when deciding to proceed with a trabeculectomy. There are also agents available to modulate the scarring response, such as Mitomycin C and 5-Flourouracil, which when used during surgery increase the chance of bleb survival. However these agents can be associated with significant side effects and are therefore used cautiously. There has been a lot of interest recently in developing an effective, less toxic anti-scarring agent. Several research groups around the world have proposed interesting ideas, but all are in the early stages of development.