

Closed Angle Glaucoma Or Narrow Angle Glaucoma

What is a closed angle type of glaucoma,

This is where the iris is found to be blocking the drainage of the eye through the trabecular meshwork. The eye pressure can then rise often very quickly leading to a painful red eye that becomes blurred. Left untreated this can lead to loss of vision.

Thus Optometrist and eye doctors are always on the look out for patients who have narrow angles so that a simple laser treatment can be applied which in most cases will prevent an attack of Closed angle Glaucoma.

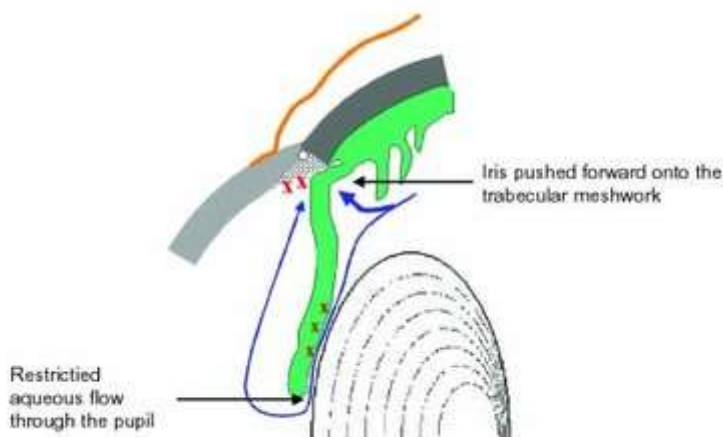
What is the cause of primary angle closure glaucoma (PACG)?

In PACG, the drainage angle is 'narrow', with signs that the iris has pressed against the trabecular meshwork and damaged it, or the drainage angle is 'closed', with the iris stuck to the surface of the trabecular meshwork.

In most eyes with this sort of glaucoma, the pressure in the eye is constantly higher than 'normal' because there is a blockage of, or damage to, the trabecular meshwork. In some eyes, the pressure is intermittently higher than normal because the iris blocks the trabecular meshwork only some of the time.

Sometimes angle closure results in an episode of very severe pain in the eye with short-term loss of vision. This is called acute angle closure glaucoma (previously called acute glaucoma).

In the diagram below shows the fluid being produced behind the pupil and pushing it forward to block the drainage angle which is in the side of the eye causing the iop to rise. This snap shuts and at times it will not open up again causing the intra-ocular pressure to be very high for some time.



There is also Intermittent or acute angle closure typically occurs during activities such as reading or sewing and may be precipitated by low light levels, such as those experienced

during a visit to the cinema. Symptoms are more common in individuals with a European ethnic background.

Chronic or acute angle closure is termed angle closure glaucoma when damage to the vision or optic nerve has occurred as a result of high pressure in the eye. This can be very damaging to the vision.

Who is at risk of primary angle closure glaucoma (PACG)?

Some people are more at risk of developing primary angle closure glaucoma than others:

Age: Acute and chronic angle closure becomes much more common with increasing age. It is uncommon below the age of 40.

Sex: Women suffer from acute and chronic angle closure more frequently than men.

Race: If you are of Asian origin you are more at risk of angle closure glaucoma than someone of European origin. It may also come on at a younger age and be more severe.

Family History: If you have glaucoma, your close relatives have an increased chance of developing the condition. You should advise members of your family to have regular eye tests by an optometrist (optician).

Long sight: People with a high degree of long sight are more prone to angle closure glaucoma. = Thick glasses that magnify the eye = Small eyes

What are the symptoms of primary angle closure glaucoma (PACG)?

In the early stages of PACG, there may be no symptoms – your vision may seem perfectly normal and there is no pain. The condition is usually first picked up when your eyes are examined by your optometrist (optician).

For this reason, regular visits every year or two are essential if glaucoma is to be detected early. In the later stages of glaucoma, when a considerable amount of the field of vision has been lost, getting about and using stairs becomes difficult, although reading vision and vision for recognising people is usually still good. However, if the glaucoma is untreated, even the centre of the field of vision may be damaged so that reading vision becomes affected and sight may be lost.

In eyes that develop high pressure without symptoms, the condition is called chronic angle closure. This form is more common in individuals with an Asian ethnic background.

In some eyes, there may be intermittent symptoms of eye ache with cloudy vision, where the vision becomes milky or hazy, like looking through smoke.

Detection and diagnosis

The detection of chronic angle closure glaucoma, like other forms of symptomless glaucoma depends on regular routine eye examinations which include all three glaucoma tests.

This is because an unaffected eye can 'fill in' for the other, the detailed central vision is not affected until a late stage and because people wrongly assume that the reduction in their vision is simply due to age.

Everyone over 40 years of age should ensure that they have regular sight tests every two years to discover if their eyesight has deteriorated. These tests are a good opportunity to check for any signs of glaucoma.

During these visits, make sure you ask the optometrist (optician) to carry out the three glaucoma tests.

The three glaucoma tests are:

1. Eye pressure (tonometry):- Normal intra-ocular pressure is 14 to 21mmHg. Moderately elevated is up to 30, above 30 is high and above 40 very high needing urgent treatment.

2.

Eye pressure can be measured in several ways.

Air Puff Tonometer or the puffer is done by Optometrists as a quick easy screening test – but generally is not liked as is a sharp puff of air on to the eye. However is not harmful.

Hospitals and some optometrist will use Rebound Tonometry the most comfortable or the gold standard of Goldmann tonometer.

2. Optic disc appearance (ophthalmoscopy):- The appearance of the optic disc can be examined using an ophthalmoscope (a special sort of torch) or by the use of a slit lamp. This allows the examiner to assess the degree of cupping of the optic disc and the health of the retina.

3. Visual field (perimetry):- Perimetry is the technique of mapping out the blank or less sensitive areas in the field of vision, so that the presence of optic nerve damage can be assessed.

These three tests together increase the likelihood of glaucoma detection by four times when compared with ophthalmoscopy alone. Eye pressure and optic disc examination are routine in an eye test, as is very often a screening field test but some optometrist may charge for the later and some off the

Enhanced eye test where other more sophisticated tests like Optic nerve Head scans GDx or Heidelberg Retinal Tomography are done.

The three tests are quick and painless and, depending on the instruments used, should only take around 15 minutes in addition to the normal eye examination but they will only establish that there is glaucoma present.

The precise diagnosis of angle closure glaucoma is dependent on gonioscopy, which is where the examiner uses a special type of contact lens to view the drainage angle of the eye.

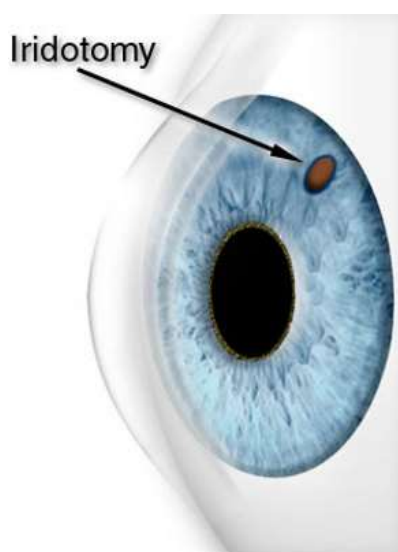
Acute angle closure glaucoma

As has already been described, this is a painful event and people suffering an attack of acute angle closure glaucoma are certain to seek medical attention urgently.

If there is an increased likelihood of a person suffering an attack, because of family history, then gonioscopy can be carried out in order to assess the depth of the anterior chamber and the condition of the drainage angle and if necessary treatment can be given to prevent an attack.

Treatment of Primary Angle Closure Glaucoma (PACG)

The loss of vision in glaucoma is permanent, but with early treatment, the damage to vision can be minimised. In some patients, the loss of vision occurs very slowly and treatment may not be necessary. However, most patients do require treatment. This prevents or slows further loss of vision in most patients. Taking the treatment is important, even though the vision may seem normal, because the loss of vision may get worse without the patient noticing.



Treatments include

1. Diamox tablet to immediately lower the eye pressure
2. Eye drops to keep pupil small eg Pilocarpine

3. Eye drops to lower intra-ocular pressure eg Latanaprost

Followed by

1. Laser peripheral iridotomy
2. Cataract surgery - this opens up the space in the eye and is recommended where there is a cataract as well.

Your Doctor will discuss the options which are most suited.

Treatment for glaucoma is effective and in the vast majority of cases useful sight can be retained for life providing the treatments are used properly and the agreed management regime followed.

References

<http://www.glaucoma-association.com>