
Our vision: Is for Australians to be free of glaucoma blindness

Normal Tension (Low Tension) Glaucoma

The term glaucoma refers to a characteristic pattern of damage to the optic nerve (the nerve that enters the back of the eye and carries the visual signal to the brain) along with corresponding visual field loss which is progressive. Various risk factors for the development of glaucoma are recognised, but many other risk factors remain unknown.

One of the main risk factors for the development of glaucoma is the intraocular pressure (the pressure within the eyeball). The higher the pressure, the more likely glaucoma is to develop. The normal eye pressure is 10-21 mmHg - eye pressure is measured on the same scale as blood pressure. However this is not the only risk factor for glaucoma. It is also widely recognised that in about 1/3rd of cases of glaucoma the characteristic optic nerve changes and visual field loss can develop in an eye with normal pressure – this is termed normal tension glaucoma.

Causes

A history of migraine and Raynaud's phenomenon is linked to normal tension glaucoma. It is thought that lower blood pressure or reduced ocular blood flow may render the optic nerve more susceptible to the development or progression of normal tension glaucoma.

Who is at risk?

Individuals over 40 years with a family history of glaucoma and a history of migraine or Raynaud's phenomenon

Symptoms

Most patients with normal tension glaucoma in the early stages have no symptoms of the condition. There is no pain and vision seems normal.

Detection

The diagnosis of glaucoma requires recognition of the characteristic optic nerve and visual field changes. This requires examination of the back of the eye and testing of the visual field. There are also tests that can help measure the optic nerve and nerve fibres as they enter the back of the eye.

Patients with normal tension glaucoma form a most important group, their evaluation needs to be especially thorough both to confirm the diagnosis and to exclude other medical conditions that may mimic glaucomatous damage to the optic nerves. They are of research interest because they demonstrate that factors other than an abnormally raised eye pressure can cause glaucomatous nerve damage - there is much work underway around the world to identify these factors so they can be treated.

Treatment

Even though the pressure is still in the normal range, there is good evidence to show that lowering the pressure with eye drops (and sometimes laser or surgery) can help slow the process and preserve patients' vision. The range of treatments is thus similar to those for the more common forms of glaucoma, but often aiming for lower pressures.

As with all forms of glaucoma, early detection and prompt, effective treatment is vital to reduce visual damage.

Ongoing Management

As with other types of glaucoma, regular review by an eye specialist is critical to ensure that you do not develop substantial vision impairment.