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Glaucoma is the most common cause of adult blindness in the United States. Various studies have found the incidence of this disease to be as high as 3 to 4 percent in people over the age of 40. Major problems with glaucoma are that the onset of the disease is usually without symptoms and it is progressive in nature. Glaucoma is a disease of the eyes in which the pressure within the eye is high enough to cause nerve damage in the back of the eye and result in visual loss. This pressure may have sudden rises, intermittent rises or may always be too high. There is no pressure which is safe for everybody, but instead every person should be approached as an individual because one may have visual loss at a pressure which is considered normal in that it will not cause damage in most individuals. In fact, most visual loss occurs when the pressure is within a range which once was thought to be normal.

The site of damage in glaucoma is where the optic nerve leaves the eye and begins its course back to the brain. The death of the nerve fibers at this location is the cause of visual loss. The cause of abnormal pressures varies depending on the type of glaucoma, of which there are three major types: open angle, narrow angle and combined mechanism. In open angle the production rate of fluid in the front of the eye is greater than the rate at which fluid can leave through outflow passageways and results in increased pressure within the eye. In narrow angle the outflow passageways get blocked by the iris when it is pushed up against the outflow pathways by an abnormal relationship between the lens of the eye and the iris. Combined mechanism is a result of both previously discussed mechanisms occurring in the same eye.

Since visual loss may occur regardless of the pressure within the eye, there appears to be a variation in the optic nerve's ability to resist damage from pressure within the eye. The ability of the optic nerve to resist damage from pressure within the eye is a major factor in the course and development of visual loss in glaucoma. The individual variation of this resistance is why some people have no loss of vision at high pressures and others have visual loss at pressures which were once thought to be normal.

The diagnosis of glaucoma requires careful evaluation of each patient as an individual, looking for signs of glaucoma on clinical examination, visual fields, and pressure readings. A visual field is a test which records a person's visual responses and can document actual visual loss and follow progression of these losses.

The goal of treatment in glaucoma is to keep pressure within the eye low enough to prevent visual loss. Methods of treatment include eye drops, oral medicine, laser surgery and surgery without lasers. Adequate control of pressure requires careful follow-up of patients for years and a commitment of the patient to follow up on doctor's orders.

With your help glaucoma may no longer be a leading cause of blindness in the United States.

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