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An Overview of Glaucoma

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Abstract

Purpose: To determine the accuracy of a previous diagnosis of cataract in patients presenting to a VA Medical Center in SE Missouri, and to ascertain whether patient anxiety influenced this diagnosis.

Methods: 100 consecutive patients self-reporting a prior diagnosis of cataract were examined for accuracy of Diagnosis. Standard Snellen visual acuity was used as the primary outcome. Cortical and posterior subcapsular cataract were graded based on proximity to visual axis; nuclear sclerotic cataracts were classified based on a previously-reported grading scale of the author. Medical records were examined for pre-existing diagnosis of anxiety or generalized anxiety disorder.

Results: Only 15% of patients with a pre-existing diagnosis of cataract were found to have lenticular opacities causing decrease in best-corrected visual acuity.

Conclusions: Previous diagnosis of cataract is often inaccurate and far exceeds reporting misdiagnosis rates. Strict definition of cataract is not followed in this part of the United States.

Introduction

Glaucoma is a group of eye diseases which result in damage to the optic nerve and cause vision loss. The most common type is open-angle (wide angle, chronic simple) glaucoma, in which the drainage angle for fluid within the eye remains open, with less common types including closed-angle (narrow angle, acute congestive) glaucoma and normal-tension glaucoma. Open-angle glaucoma develops slowly over time and there is no pain. Peripheral vision may begin to decrease, followed by central vision, resulting in blindness if not treated. Closed-angle glaucoma can present gradually or suddenly. The sudden presentation may involve severe eye pain, blurred vision, mid-dilated pupil, redness of the eye, and nausea. Vision loss from glaucoma, once it has occurred, is permanent. Eyes affected by glaucoma are referred to as being glaucomatous.

Risk factors for glaucoma include increasing age, high pressure in the eye, a family history of glaucoma, and use of steroid medication. For eye pressures, a value of greater than 21 mmHg or 2.8 kPa is often used, with higher pressures leading to a greater risk. However, some may have high eye pressure for years and never develop damage. Conversely, optic nerve damage may occur with normal pressure, known as normal-tension glaucoma. The mechanism of open-angle glaucoma is believed to be slow exit of aqueous humor through the trabecular meshwork, while in closed-angle glaucoma the iris blocks the trabecular meshwork. Diagnosis is by a dilated eye examination. Often, the optic nerve shows an abnormal amount of cupping. If treated early, it is possible to slow or stop the progression of disease with medication, laser treatment, or surgery.The goal of these treatments is to decrease eye pressure.A number of different classes of glaucoma medication are available.Laser treatments may be effective in both open-angle and closed-angle glaucoma.A number of types of glaucoma surgeries may be used in people who do not respond sufficiently to other measures. Treatment of closed-angle glaucoma is a medical emergency.

About 70 million people have glaucoma globally. The disease affects about 2 million people in the United States. It occurs more commonly among older people. Closed-angle glaucoma is more common in women.Glaucoma has been called the "silent thief of sight," because the loss of vision usually occurs slowly over a long period of time. Worldwide, glaucoma is the second-leading cause of blindness after cataracts. Cataracts caused 51% of blindness en 2010, while glaucoma caused 8%. The word "glaucoma" is from Ancient Greek glaukos, which means "shimmering."In English, the word was used as early as 1587 but did not become commonly used until after 1850, when the development of the ophthalmoscope allowed people to see the optic nerve damage.

Open-angle glaucoma is usually painless with no symptoms early in the disease process, thus screening via regular eye check-ups is important. The only signs are gradually progressive visual field loss, and optic nerve changes (increased cup-to-disc ratio on fundoscopic examination). About 10% of people with closed angles present with acute angle closure characterized by sudden ocular pain, seeing halos around lights, red eye, very high intraocular pressure (>30 mmHg), nausea and vomiting, suddenly decreased vision, and a fixed, mid-dilated pupil. It is also associated with an oval pupil in some cases. Acute angle closure is an emergency.

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