

Secondary Angle-Closure Glaucoma

Similar to primary angle-closure glaucoma, patients with secondary open angle glaucoma have an anterior chamber angle which is at least partly occluded, often permanently by peripheral anterior synechiae (PAS; scar tissue extending between the iris and the trabecular meshwork). However, in secondary angle-closure glaucoma, the occlusion of the angle is associated with an ocular or systemic cause. Careful [gonioscopy](#) often shows subtle changes that your ophthalmologist can detect to give clues as to the cause of the angle closure, a skill all [GAT Doctors](#) have as a result of their fellowship training in glaucoma.

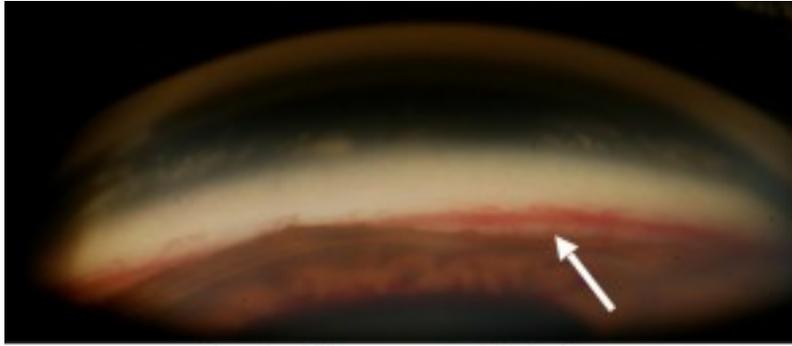
Neovascular Glaucoma



Iris Neovascularization

Neovascular glaucoma, a severe type of secondary angle-closure glaucoma, results from the formation of abnormal blood vessel growth in the iris and trabecular meshwork. This abnormal neovascularization (new blood vessel growth) is associated with bleeding and scarring within the eye, as well as PAS formation in the angle leading to secondary angle-closure glaucoma.

Like all forms of secondary glaucoma, neovascular glaucoma is the result of other ocular and/or systemic disease. The most common causes of neovascular glaucoma include diabetes mellitus, central retinal vein occlusions, and ocular ischemic syndrome. Other causes included chronic inflammation, trauma, tumors, radiation, and other diseases affecting blood vessels (both in the eye and systemically).



Angle Neovascularization

Patients with neovascular glaucoma often present with acute (sudden) vision changes, pain, eye redness, and high intraocular pressure. Treatment is two-fold: controlling the intraocular pressure and treating the underlying disease. Controlling the intraocular pressure can be difficult with medications alone and surgical intervention is often necessary, usually with a glaucoma drainage implant.

Of note, blood vessels are present in the normal angle and can often be seen upon routine gonioscopy. To a marked extent, their visibility depends upon the color of the iris, and to a lesser extent, upon the width of the angle. Gonioscopically visible blood vessels can be seen in more than 50% of blue-eyed individuals, but less than 10% of brown-eyed humans. They are more commonly noted in wide than narrow angles. The doctors at El Paso Eye Surgeons, P.A. perform gonioscopy on all patients and are experts at distinguishing normal versus abnormal angle blood vessels.

Inflammatory Glaucoma

Ocular inflammation can lead to a variety of problems, including elevated intraocular pressure, glaucoma, corneal disease, cataracts, and retinal disease, as well as scarring in the conjunctiva, cornea, iris, anterior chamber angle, and retina.

Inflammatory glaucoma results from a variety of mechanisms, with formation of PAS and posterior synechiae (scar tissue between the iris and the lens) ultimately leading to elevated intraocular pressure. Similar to other forms of secondary glaucoma, the most important treatment aims at the underlying cause, often with topical and/or oral steroids and other anti-inflammatory medications. Treatment of elevated intraocular pressure is initially done with [glaucoma medications](#), though [surgical treatment](#) is often necessary due to the aggressive nature of inflammatory glaucoma.