Retinal Artery Occlusion (BRAO and CRAO)

What is Retinal Artery Occlusion (RAO)?

A retinal artery occlusion (RAO) is a blockage in one or more of the arteries of your retina, a layer at the back of the eye where visual images are formed.

The blockage is caused by a clot or occlusion in an artery or a build-up of cholesterol in an artery. It is similar to a stroke. An occlusion causes damage to the retina due to lack of blood flow. In the short term, this loss of blood flow can cause swelling of the retina. If the blood flow remains poor, it can lead to death of the retina cells and loss of vision.

There are two types of retinal artery occlusion:

Central retinal artery occlusion (CRAO)

A central retinal artery occlusion occurs from a blockage of the main retinal artery as it enters the eye at the optic nerve.

Branch retinal artery occlusion (BRAO)

A branch retinal artery occlusion involves blockage of one or more of the smaller retinal arteries.

Symptoms

Symptoms of a retinal artery occlusion vary based on the degree of impairment of blood flow to the eye. The most common symptom is sudden, painless loss of vision in one eye, either partial or complete. Additional symptoms include:

- Loss of peripheral vision
- A blurry or gray spot in your field of vision
- Distorted vision

Risk Factors

- Age 60+
- High blood pressure
- Cardiovascular disease
- High cholesterol
- Carotid artery disease
- Male — occurs more often in men

Diagnosis

Your doctor can diagnose a retinal artery occlusion (RAO) based on examination of your eyes. Often a clot or plaque can be seen inside the blocked artery. Other diagnostic tests such as a fluorescein angiogram can be helpful in determining the degree of loss of blood flow.

Often your doctor will recommend that you see your regular physician for a complete cardiovascular work-up to evaluate the risk factors listed above.

Treatment

Unfortunately, there are no good treatments for a retinal artery occlusion (RAO). In very early cases, attempts can be made to lower the eye pressure with eye drops or a procedure called anterior chamber paracentesis. However, even with eye pressure lowering treatments, there is often little change in the blood flow status of the eye. In severe cases, abnormal blood vessels can grow that cause eye pain and glaucoma to develop. In these cases, laser treatment can be used to try to help control the eye pressure and relieve pain.