Central Retinal Artery Occlusion

Central retinal artery occlusion is when the artery that supplies blood to the *retina* is blocked. The retina is the layer of cells at the back of the eye that let us see light and color. These cells send light images to the brain by way of the optic nerve. The optic nerve connects directly to the brain from the back of the eye. If the central retinal artery is blocked, cells in the retina needed for vision die. A central retinal artery occlusion is a stroke of the retina and usually results in blindness of the affected eye.

About 14% of people have a small extra artery (*cili-retinal artery*) coming off the central retinal artery and supplies blood to a key part of the retina. These people are very lucky if they have a central retinal artery occlusion because they may retain some vision.

CAUSES

There are many different things that could cause the blockage such as:

- Hardening of the arteries (*arteriosclerosis*).
- High blood pressure.
- High pressure in the eye from long occurring (*chronic*) or sudden (*acute*) glaucoma.
- Swelling of the optic nerve. This can happen from inflammation of the nerve itself or from high pressure inside the head around the brain.
- A small piece of fat traveling in the blood stream (*fat embousi*).
- A blood clot in the artery.
- A condition called *arteritis* (a response to injury or infection by an artery).
- Migraine headache.

This condition is more likely to happen in someone with:

- Diabetes.
- High blood pressure.
- An abnormal heart rhythm.
- Certain types of arthritis.
- Certain blood conditions.
- Certain heart valve problems.
- Narrowing of the main arteries in the neck that supply blood to the brain (*the carotid arteries*).

SYMPTOMS

- Sudden, painless, total loss of vision in one eye. There are no symptoms before it happens.
- If only a branch of this artery is blocked, there may be partial loss of vision coming from the area of the retina that is not receiving blood.

DIAGNOSIS

An ophthalmologist can usually diagnose this condition by examining at the inside of the eye. Some of the usual findings of swelling only appear for a short time. By the time they go away, the retinal cells are damaged for good and cannot be restored.

TREATMENT

In very rare cases, sudden lowering of pressure in the eye by using medicines and actually draining some of the eye fluids can restore blood flow. This is rarely successful. Treatments that may be used are:

- Medicines that lower the pressure inside the eye.
- Medicines that can improve blood supply to the retina.
- Oxygen with a small amount of carbon dioxide. It is important to get as much oxygen as possible to the retina. The carbon dioxide can help open blood vessels and let more oxygen and blood get to the retina.

SEEK IMMEDIATE MEDICAL CARE IF:

You suddenly have a total loss of vision in one eye. It may not be possible to restore the vision that has been lost. However, it is important to know what the cause of the central retinal artery occlusion was so that any underlying disease can be treated right away.

Document Released: 04/01/2002 Document Re-Released: 03/26/2009
ExitCare® Patient Information ©2011 ExitCare, LLC.