Retinal Vein Occlusion Information

Venous Occlusions of the Retina

The eye is like a tiny camera, with lenses in the front and film in the back. The "film" in the camera is called the retina. It is nourished by tiny blood vessels. Arteries carry the blood into the back of the eye, and veins drain the blood out and back to the heart. Sometimes, the main vein that drains blood from the eye can become blocked. This is called a central retinal vein occlusion, and can result in mild to severe vision loss. If this process occurs in one of the small venous branches, it is called a branch vein occlusion. Similar loss of vision can occur, but it is usually more localized and less severe.

When a vein occlusion occurs, the vision may be damaged in three main ways. Blood may back up and break out of blood vessels resulting in hemorrhages that block the vision. Fluid in the bloodstream may leak out of vessels resulting in vision loss from retinal swelling, also called "edema". Finally, the capillaries (the tiniest vessels) may be damaged, decreasing oxygen supply to the retina enough to result in vision loss. The macula is the central portion of the retina responsible for sharp central vision. If the macula is involved in the occlusion, vision loss may result.

What Causes Venous Occlusion?

Vein occlusions may have many causes, but high blood pressure is the most common associated condition. In elderly patients, they are more common in patients with other diseases of small blood vessels such as diabetes and high blood pressure. Patients of any age may have blood disorders that result in abnormally thick blood causing vein occlusions. If you have not had a recent medical exam, you should have one to check for these possible
associated conditions. Glaucoma, a condition involving increased eye pressure, may cause vein occlusions by increasing resistance to blood flow within the eye. We will check for this as part of your evaluation.

**How Is Venous Occlusion Diagnosed?**

Vein occlusions can be detected by examining the back of the eye after instilling drops to dilate the pupils. Sometimes, the circulation is more closely studied using a picture test called **Fluorescein Angiography**. This involves injecting a synthetic dye, called sodium fluorescein into an arm vein. A few seconds after injection, this dye appears in the retinal vessels and is photographed with a special computerized camera, providing a very detailed "roadmap" of the circulation.

**What treatments are available for venous occlusion?**

The treatment of retinal venous occlusion depends on the size and location of the blocked vessel. Some small vein occlusions are self-limited and resolve on their own without the need for treatment. The hemorrhage from vein occlusions clears with time and does not require treatment. The swelling that often results from vein occlusion may persist for long periods. In many of these cases, **laser treatment** can be used to seal leaky vessels and assist in the reabsorption of this swelling. Other treatments that may be used are different intraocular injections, **Steroids** and/or **Anti-VEGF Agents**. Injections may need to be given periodically. One complication of vein occlusion is abnormal new vessel formation in the eye that can result in vitreous hemorrhage with sudden vision loss or a severe, painful form of glaucoma. These complications can be treated with other laser techniques. Some severe vein occlusions have been successfully treated by doing surgery (**vitrectomy**) to physically relieve the site of blockage. Your doctor can discuss with you what, if any, treatment is recommended in your case.
What to do if you have Retinal Vein Occlusion:

• A retinal vein occlusion is more likely in patients with high blood pressure, diabetes, heart disease, blood problems, or glaucoma. It is therefore important to have a full medical checkup with your primary care physician if you have not done so in the past year. It is also important to be checked for glaucoma (high eye pressure), which we will do as part of your evaluation here.

• If you are found to have associated conditions, it is very important to have them treated. This will not only protect your health, but may help your vision as well.

• Even after laser or surgical treatment, vision recovery can take several months after a vein occlusion. Do not be alarmed if vision does not return rapidly. Also remember that if vision loss is in part due to lost blood supply, vision recovery may not occur or may be only partial.

• Complications from a vein occlusion may include bleeding in the eye or sudden pain and redness from pressure elevation. Please call immediately if you have any sudden vision change, pain, or redness.