Avastin® (Bevacizumab) Intravitreal Injection

This handout describes how Avastin® may be used to treat wet age related macular degeneration (AMD) or macular edema due to retinal vascular disease such as diabetic retinopathy or retinal vein occlusion.

AMD is the leading cause of blindness in people over the age of 50. It is caused by the breakdown of the central portion of the retina (macula). The retina is the nerve layer in your eye that works like the film in a camera to pick up the picture. It is needed for fine central vision for driving a car, reading fine print, recognizing faces, etc. There are two types of AMD: dry and wet. In the wet form of AMD, abnormal blood vessels grow beneath the macula. Sometimes these vessels leak blood or fluid which cause blurred or other changes in vision. This causes swelling of the macula. Vision loss may be quick and severe without treatment.

Eye problems causing loss of vision due to either abnormal growth of blood vessels in the back of the eye or swelling around the macula can happen in patients of all ages. Sometimes there is no known reason for the abnormal blood vessels. Possible causes may include:

- Nearsightedness (high myopia)
- A fungus which affects the eye (histoplasmosis)
- Cracks in the retinal layers or reddish brown streaks (angioid streaks)
- Eye injury
- Blocking the blood supply to the retina
- Changes to the retina from diabetes, including swelling of the macula

Macular edema is a swelling of the macula due to leaking retinal blood vessels. It may be caused most often by diabetic retinopathy or the blockage of retinal blood vessels – branch vein occlusion or central vein occlusion.
What is “Off-Label” status for medicines?

Avastin® was approved by the Food and Drug Administration (FDA) for the treatment of colon cancer, not to prevent loss of vision. The manufacturer produced a “label” that explains the reason for taking the drug, as well as the risks and benefits. The label explains that Avastin® works by blocking a substance known as vascular endothelial growth factor (VEGF). Blocking or stopping VEGF helps prevent further growth of the blood vessels that the cancer needs to continue growing. Research has shown that VEGF is one of the causes for the growth of the abnormal vessels in AMD and leaking of retinal blood vessels in macular edema.

Once approved by the FDA, doctors may use “off label” drugs for other purposes if they are:
- Well-informed about the product
- Proof has shown it has had positive effects with use
- Records of its use and effects are kept current

What are the limits of Avastin®?

The goal of treatment is to stop further loss of vision. Some patients treated with Avastin® have shown less fluid and a more normal looking macula. Their vision also improved. Although some patients have regained vision, the medicine may not bring back vision that has already been lost. Also, it may not stop further loss of vision caused by the disease.

How is Avastin® given?

The pupil is dilated and the eye is numbed with drops and cleaned with an antiseptic solution. Avastin® is injected into the vitreous (jelly-like substance in the back chamber of the eye). Avastin® is given as needed every four to six weeks. Your eye doctor will tell you how often you will receive the injection and for how long.
It is your decision to receive treatment. Without treatment, these diseases can lead to further vision loss and blindness. Sometimes this can happen very fast. At present, there are other FDA-approved drugs for AMD. These treatments include:

- Photodynamic therapy with a drug called Visudyne®
- An injection into the eye of other anti-VEGF medications such as Lucentis® and Eylea®

For diabetic macular edema or macular edema due to vein occlusion, laser therapy may be needed as an additional treatment. A different treatment may also include the use of another anti-VEGF injection such as Lucentis® or Eylea®. Your doctor will talk with you about the benefits and risks of these other treatment options.

**What problems could occur?**

When Avastin® was given to patients with colon cancer, some of the problems seen were: stomach ulcers, wound healing problems, bleeding, stroke, heart attack, high blood pressure, protein in the urine, and heart problems. Patients who have these complications not only had colon cancer, but were given 400 times the amount you will be given. Higher amounts are used to spread throughout the body.

Eye doctors believe that the risks for patients with eye problems are low. Patients getting Avastin® into the eye receive a much smaller dose. Clinical trials of Lucentis® and Eylea®, as well as studies comparing Lucentis® and Avastin®, found that these drugs are safe and effective. Patients treated with Avastin® for macular degeneration did not have the serious problems that were seen in patients with cancer.

**What are the known risks of eye injections?**

Your eye condition may not get better or may become worse. Any or all of these problems may cause a loss of vision and/or have the chance of causing blindness. More procedures may be needed to treat these problems. During clinic visits or phone calls, you will be checked for side effects and the results will be discussed with you.
Any medicine can cause allergic reactions in certain people. These can include: rash, hives, itching, shortness of breath, and, rarely, death. These symptoms are more likely to occur in people who have allergies to other drugs, foods, or things in the environment, such as dust or grass. If you have allergies or asthma, tell your doctor.

Possible risks leading to loss of vision with eye injections
- Detached retina
- Clouding of the lens of the eye (cataract)
- Increased pressure in the eye (glaucoma)
- Reduced pressure in the eye (hypotony)
- Damage to the retina or cornea
- Bleeding
- Eye infection

Less severe risks from eye injections
- Eye pain
- Bloodshot eye (subconjunctival hemorrhage)
- Floating spots with clear centers (vitreous floaters)
- Swelling of the eye
- Vision changes

What precautions should I follow?
- For the day after the injection, do not rub your eyes.
- Do not swim for one day after the injection.
- Tell your eye doctor and any other doctor or dentists that you are on a medicine that may need to be stopped before you can have surgery.
- Please discuss with your eye doctor if you are using eye drops.

When to call your eye doctor right away
- Severe pain not relieved by medicine
- Blurry or decreased vision
- Sensitivity to light
- Redness of the eye
- Discharge from the eye
When to call your local doctor or go to the Emergency Room right away

- Abdominal pain with constipation and vomiting
- Abnormal bleeding
- Chest pain
- Severe headache
- Slurred speech
- Weakness on one side of the body

Phone Numbers

University Station Eye Clinic, 8 a.m. to 4:30 p.m., Monday through Friday
(608) 263-7171

When the clinic is closed, your call will be forwarded to the hospital paging operator. Ask for the “Eye Resident on Call”. Give the operator your name and phone number with area code. The doctor will call you back.

If you live out of the area, call 1-800-323-8942 and ask to be transferred to the above number.

Please call if you have any questions or concerns.