

Age Related Macular Degeneration

Avastin (Bevacizumab) Intravitreal Injection

INDICATIONS

- Age-related macular degeneration (AMD) is the leading cause of blindness in people over 50 years of age. It is caused by the breakdown of the central portion of the retina (the nerve layer part of your eye that works like the film in a camera to pick up the picture) called the macula. The macula is responsible for the fine central vision in the eye that is needed for driving a car, reading fine print, recognizing faces, etc. There are two types of macular degeneration: dry and wet. In the "wet" form of AMD, abnormal blood vessels grow in the back of the eye. Sometimes these vessels leak blood or fluid that causes blurred or distorted vision. Without treatment, vision loss may be quick and severe.
- Refractory macular edema, or swelling around the macula, is edema that affects vision but does not respond adequately to the usual treatment methods. It can occur with conditions such as central retinal vein occlusion and diabetic retinopathy. Without effective treatment, vision loss could progress and become permanent.
- There are other eye conditions that cause loss of vision due to abnormal growth of blood vessels in the back of the eye. These can occur even in young patients, and include, but are not limited to, conditions such as high myopia (nearsightedness), histoplasmosis, angioid streaks, and eye injury. Sometimes there is no known reason for the abnormal blood vessels. Without treatment, vision loss may be quick and severe.

POSSIBLE BENEFITS AND "OFF-LABEL" STATUS

Avastin was not initially developed to treat your eye condition. Based upon the results of clinical trials that demonstrated its safety and effectiveness, Avastin was approved by the TGA for the treatment of metastatic colorectal cancer.

As a condition of approval, the manufacturer produced a "label" explaining the indications, risks, and benefits. The label explains that Avastin works by blocking a substance known as vascular endothelial growth factor or VEGF. Blocking or inhibiting VEGF helps prevent further growth of the blood vessels that the cancer needs to continue growing.

Once a device or medication is approved by the TGA, physicians may use it "off-label" for other purposes if they are well-informed about the product, base its use on firm scientific method and sound medical evidence, and maintain records of its use and effects. Ophthalmologists are using Avastin "off-label" to treat AMD and similar conditions since research indicates that VEGF is one of the causes for the growth of the abnormal vessels that cause these conditions. Some patients treated with Avastin had less fluid and more normal-appearing maculas, and their vision improved. Avastin is also used, therefore, to treat macular edema, or swelling of the macula.

POSSIBLE LIMITATIONS AND ADMINISTRATION

The goal of treatment is to prevent further loss of vision. Although some patients have regained vision, the medication may not restore vision that has already been lost, and may not ultimately prevent further loss of vision caused by the disease. After the pupil is dilated and the eye is numbed with anaesthesia, the medication is injected into the vitreous, or jelly-like substance in the back chamber of the eye. Avastin is administered by an injection

into your eye as needed at regular intervals (about every six to twelve weeks); your ophthalmologist will tell you how often you will receive the injection, and for how long.

ALTERNATIVES

You do not have to receive treatment for your condition, although without treatment, these diseases can lead to further vision loss and blindness, sometimes very quickly. Other forms of treatment are available. At present, there are two TGA-approved treatments for neovascular age-related macular degeneration: photodynamic therapy with a drug called Visudyne, and injection around the eye of a drug called Retaane. Although both of these treatments have been proven to slow down the rate of visual loss, most people do not get back to better vision. Your doctor will discuss with you the benefits and risks associated with these other choices of treatment. In addition to the TGA-approved medications, some ophthalmologists use intravitreal Kenalog - a long-acting cortisone-like drug - "off-label" to treat eye conditions like yours.

COMPLICATIONS FROM THE MEDICATION

Complications when Avastin is given intravenously to patients with cancer

When Avastin is given to patients with metastatic colorectal cancer, some patients experienced serious and sometimes life-threatening complications, such as gastrointestinal perforations or wound healing complications, hemorrhage, arterial thromboembolic events (such as stroke or heart attack), hypertension, proteinuria, and congestive heart failure.

Patients who experienced these complications not only had metastatic colon cancer, but were also given 400 times the dose you will be given, at more frequent intervals, and (through an intravenous infusion) spread the drug throughout their bodies.

Risk when Avastin is given to treat patients with eye conditions

Ophthalmologists believe that the risk of these complications for patients with eye conditions is low. Patients receiving Avastin for eye conditions are healthier than the cancer patients, and receive a significantly small dose, delivered only to the cavity of their eye. While there are no TGA approved studies about the use of Avastin in the eye that prove it is safe and effective, there are ongoing clinical trials of a similar drug called Lucentis as well as studies of patients receiving Avastin "off-label". One study of patients who received Avastin through an intravenous infusion reported only a mild elevation in blood pressure. Another study of patients treated like you will be with intravitreal Avastin (that is, Avastin injected into the eye) did not have these elevations or the other serious problems seen in the patients with cancer.

However, the benefits and risk of intravitreal Avastin for eye conditions are not yet fully known. In addition, whenever a medication is used in a large number of patients, a small number of coincidental life-threatening problems may occur that have no relationship to the treatment. For example, patients with diabetes are already at increased risk for heart attacks and strokes. If one of these patients being treated with Avastin suffers a heart attack or stroke, it may be caused by diabetes and not the Avastin treatment.

Known risks of intravitreal eye injections

Your condition may not get better or may become worse. Any or all of these complications may cause decreased vision and/or have a possibility of causing blindness.

Additional procedures may be needed to treat the complications. During the follow up visits or phone calls, you will be checked for possible side effects and the results will be discussed with you.

Any medication has the potential to cause allergic reactions in a small number of people. Symptoms of an allergic reaction can include a rash, hives, itching, shortness of breath, and rarely death. In general, allergic reactions to medicines 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 to other medicines, foods, or other things in the environment, or if you have asthma, you should let your doctor know.

Possible complications and side effects of the procedure and administration of Avastin include but are not limited to retinal detachment, cataract formation (clouding of the lens of the eye), glaucoma (increased pressure in the eye), hypotony (reduced pressure in the eye), damage to the retina or cornea (structures of the eye), and bleeding. There is also the possibility of an eye infection (endophthalmitis). You may receive eye drops with instructions on when to use them to reduce the possibility of this occurring. Any of these rare complications may lead to severe, permanent loss of vision.

Patients receiving an injection of Avastin may experience less severe side effects related to the pre-injection preparation procedure (eyelid speculum, anaesthetic drops, dilating drops, antibiotic drops, povidone-iodine drops and the injection of the anaesthetic). These side effects may include eye pain, subconjunctival hemorrhage (bloodshot eye), vitreous floaters, irregularity or swelling of the cornea, inflammation of the eye, and visual disturbances.

PATIENT RESPONSIBILITIES

I will immediately contact my **ophthalmologist** if any of the following signs of infection or other complications develop: pain, blurry or decreased vision, sensitivity to light, redness of the eye (compared to immediately after the injection), or discharge from the eye. I have been instructed NOT to rub my eyes or swim for three days after each injection. I will keep all post-injection appointments or scheduled telephone calls so my doctor can check for complications.

Although the likelihood of serious complications affecting other organs of my body is low, I will immediately contact my **primary care physician or go to the Emergency Room** if I experience abdominal pain associated with constipation and vomiting, abnormal bleeding, chest pain, severe headache, slurred speech, or weakness on one side of the body. As soon as possible, I will also notify my **ophthalmologist** of these problems.

I will inform my **ophthalmologist** if I need to have any surgery, and I will inform **any other surgeon, including dentists**, that I am on a medication that needs to be stopped before I can have surgery.