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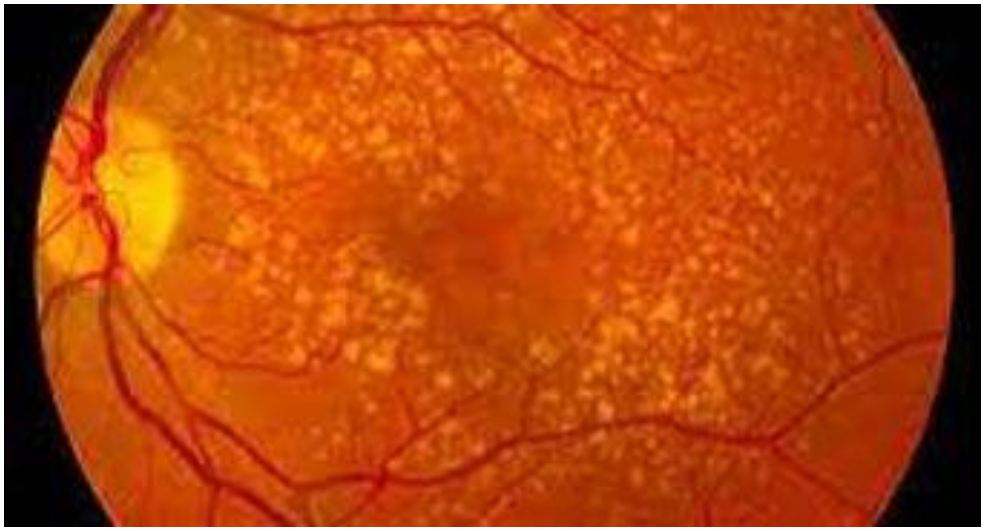
Intravitreal injections means injection into the vitreous of the eye – this may be a course of Anti-VEGF injections. Patients with several retinal conditions (as listed below) can lose their central vision when abnormal blood vessels bleed or fluid accumulates under the retina in the back of the eye.
A series of injections with anti-VEGF may be given into the back of the eye to stop blood vessels from growing and thereby controlling the fluid leakage. This treatment has been in use over the last decade and is known to be highly effective in preserving central vision in many people.
Conditions where intravitreal injection with Anti-VEGF may be used:

- Wet age-related macular degeneration
- Myopic choroidal neovascularization
- Diabetic macular oedema
- Retinal vein occlusion
- In some cases of central serous retinopathy

What is Age-Related Macular Degeneration (AMD)?

Age-related macular degeneration (AMD) is the leading cause of vision loss in people aged 50 years or older in developed nations. It involves damage to the part of the eye called the macula which is located in the centre of the retina and contains the highest level of nerve cells and is in charge of centre and precise vision. Patients with AMD lose their centre vision and ability to see fine details both close up and far.



There are two types of AMD. About 75% of people have a form called ‘early’ or ‘dry’ AMD, which develops when there is a waste buildup under the macula. Clinically, we see the waste build up as drusen. A small proportion of patients with early AMD can progress to the vision-threatening forms of AMD called late AMD. The most common form of late AMD is ‘exudative’ or ‘wet’ AMD.

Wet AMD occurs when abnormal blood vessels grow beneath the macular which may leak fluid or cause a bleed, thereby obstructing centre vision. If untreated, patients lose their vision very quickly. Anti-VEGF therapy is particularly useful in this form of AMD. Treatment is usually over a course with a loading dose of 3 or 4 monthly injections depending on the type of Anti-VEGF used.

A less common form of late AMD called geographic atrophy is where vision is lost through the macular tissue becoming atrophic or worn out. Unfortunately, Anti-VEGF treatment cannot help this form of late AMD

What is Myopic Choroidal Neovascularization?

This condition occurs in people who are highly myopic or short-sighted. In myopic patients, the retina at the back of the eye is stretched due to the larger size of the eye. This stretching makes the retina thinner and thereby increases its risk of splitting. When this occurs, blood vessels from the choroid or the layer beneath the retina can grow underneath the retina, and leak blood and fluid.

What is Diabetic Macular Oedema (DMO)?

Diabetic macular oedema is an eye condition occurring in people with both type 1 and type 2 diabetes. Macular oedema refers to the swelling and thickening of the macula. DMO occurs as a result of changes in retinal blood vessels in people with diabetes.

Consistently high blood sugar levels as seen in diabetes can cause damage to blood vessels, with the first signs appearing in the smallest vessels, called capillaries.

The damaged blood vessels will leak, causing the build- up of excess fluid (oedema) and blood in the macula. This may lead to severe impairment of central vision in the affected eye. DMO may be treated with a course of Anti-VEGF therapy or steroid implant.

What is Retinal Vein Occlusion (RVO)?

RVO happens when there is a block in one of the retina veins. This can happen in patients with atherosclerosis, are diabetic, hypertensive or have hypercholesterolemia or are blocked by some inflammatory conditions.

The block can occur in the main retinal vein- central retinal vein occlusion (CRVO), or in one of the branches of the main vein-branch retinal vein occlusion (BRVO). One of the known sequelae of retina vein occlusion is macular oedema which may be treated by a course of Anti-VEGF treatment or steroid implant.

Who Should Not Be Treated with Anti-VEGF?

Anti-VEGF therapy should not be given to patients with the following:

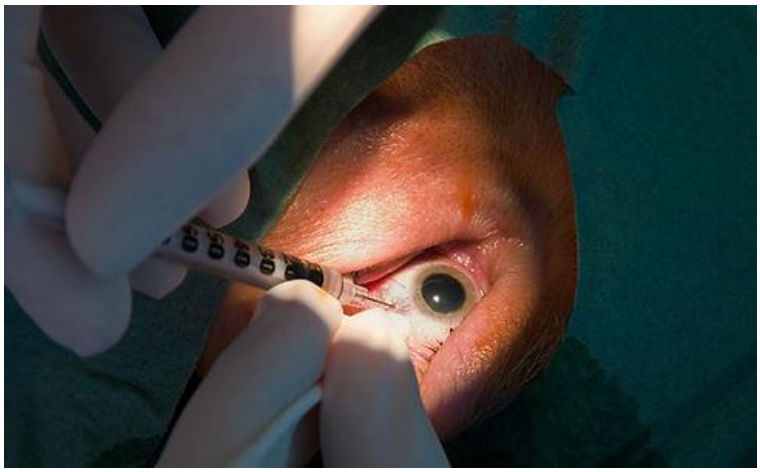
- Allergy to anti-VEGF or any of its ingredients
- An infection in or around either eye or severe infection anywhere in your body

Anti-VEGF should be used with caution in patients who have had a heart attack or stroke in the last three months, or who have uncontrolled angina or uncontrolled high blood pressure. Latest studies have shown that the risk of Anti-VEGF to stroke or heart attack is very small, theoretical risk. There is little evidence of use in pregnancy so patients who are intending to start a family would need careful discussion.

How Does an Anti-VEGF Injection Prevent Sight Loss?

Anti-VEGF therapy stops abnormal blood vessels growing, thereby stopping the leak and bleeding beneath the retina or macular. This prevents or limits damage to the retinal light receptors and loss of central vision. Anti-VEGF are very effective in preventing further central vision loss in up to 90% of treated eyes.

How is the Treatment Given?



The treatment is given in an outpatient setting in a sterilised environment. The drug is injected into your eye using a fine needle. Minimal discomfort is to be expected The entire procedure takes approximately five to seven minutes, but the injection itself is over in less than 20 seconds.
The injection is given with you lying down comfortably on the couch. Local or topical anaesthetic drops will first be applied to numb your, your eyelids and surface of the eye are cleaned to prevent infection. Your face and the area around your eye will be covered by a small surgical sheet (a drape) to keep the area sterile.

A small clip (speculum) will be used to keep the eye open . The injection site is marked with callipers and your eye is stabilised with forceps or a cotton bud. A few seconds later, the injection is given.

What are the Risks with These Injections?

As with any medical procedure, there is a small risk of complications following Anti-VEGF treatment. Most complications that might occur are from the injection itself, rather than the drug. For the majority of patients, the benefit of the treatment outweighs the small risks from injection.

Some common side effects that could occur include:

- Red eye (there is usually a bleed or bruise on the white part of the eye at the site of injection, which clears in a week or two)
- Infection
- Loss of vision
- Floaters
- Sore and gritty eye
- Corneal abrasion
- Rare risks of injections:
- Serious eye infection (one in 2,000 cases)
- Detached retina
- Increased eye pressure
- Blood clots and bleeding in the eye
- Inflammation inside the eye
- Cataract

There are no special precautions following intravitreal injections and you will be able to travel, but please avoid getting water into your eye or swimming for the first few days afterwards.

What precautions should be taken after an Anti-VEGF injection?

You will be able to go home shortly after the treatment. You will go home with lubricating drops which will provide some comfort after the injection. Use them as often as necessary. Many patients require a loading course of three or four injections at regular intervals of four weeks.

We usually ask that you monitor for the symptoms of complications which will include severe pain/redness or vision loss and ask that you contact our clinic urgently or attend your local AnE should this happen

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