**Injections in Eye**

([www.karmayog.org](http://www.karmayog.org)) (01.10.2013)

(<http://www.rnib.org.uk/eyehealth/eyeconditions/conditionsac/Pages/antivegf.aspx>) (<http://www.macula.org/anti-vegf-therapy>)

Wet AMD is caused due to growth of blood vessels in macula in reaction to reduction of blood flow to eye. These blood vessels leak causing scarring of macula.

Hence we need a treatment that will prevent the growth of blood vessels. The class of medicines that prevent growth of blood vessels are called anti-VEGF medicines. VEGF stands for Vascular Endothelial Growth Factor. Vascular relates to blood vessel. And Endothelial refers to touching blood. Vascular Endothelial Growth Factor is proteins that cause growth of blood vessels. Anti-VEGF medicines block of growth of blood vessels.

Currently, for Wet AMD, Anti VEGF medicine is administered by giving injection into the eye. Anti VEGF treatment is suitable for those whose blood vessels are active or ‘leaking’. Anti-VEGF drugs are given as an injection into the vitreous (the jelly-like substance inside the eye). The injection is give through Sclera – the white part of eye. Once inside the eye, the medicine diffuses throughout the retina and choroid. It binds strongly to the abnormal VEGF proteins, preventing the proteins from stimulating further unwanted blood vessel growth and leakage.

Three classes of eye drops are administered before the injection:

1. Antibiotic Eye Drops to prevent infection
2. Eyedrops to dilate pupils so that eye can be examined easily
3. Anaesthetic Eyedrops to make injection painless.

The injection itself takes few seconds. Antibiotic eye drops may be administered for few weeks after injection to prevent infection.There are 3 drugs used for AMD ;

1. Macugen – It was approved by EMEA(European Medicines Evaluation Agency) in Feb 2006 and stabilizes sight in 70% cases and improves 20% cases
2. Lucentis was approved in 2007 by EMEA and stabilizes sight in 90% cases and improves in 40% cases
3. Avastin is a medicine not approved by EMEA for treatment of AMD. Avastin is medicine used for cancer. Ophthalmologists have been using Avastin off label and find it comparable to Lucentis
4. Eylea is a new medicine approved in 2011 and costs as much as Lucentis with similar results.

**Complications :**

While the treatment by Injection may seem very invasive, not only is this treatment effective but complications are also rare. Complications include:

1. Infection – rare and preventable by antibiotic drops
2. Elevated Eye pressure – temporary
3. Retinal Detachment, Bleeding, Cataract formation - Rare