

Information for Patients

Treatment of Cystoid Macular Oedema (CMO) Secondary to Retinal Vein Occlusion (RVO) by Intravitreal Injections of Ranibizumab (Lucentis)

What is Ranibizumab?

Ranibizumab (Lucentis) is a drug that is used to block the action of a chemical called vascular endothelial growth factor (VEGF). This is produced in excess in eyes suffering from a retinal vein occlusion (RVO) and plays a role in the development of central swelling of the tissue at the back of the eye, Cystoid Macular Oedema (CMO). Lucentis is given by injection into the eye.

What is a Retinal Vein Occlusion (RVO)?

The retina is the light sensitive layer at the back of the eye acting like a film that captures light and is therefore responsible for what we see. Blood reaches the retina through only one artery and leaves the retina through only one vein but these have many smaller branches that help to supply the whole surface of the retina with oxygen.

An RVO is a blockage of the vein as a whole or of a smaller branch of the main vein that takes blood from the retina back to your heart. When the vein or one of its branches gets blocked, the retina is affected, often causing a sudden painless loss of vision.

What causes it to block?

There are many causes of a blocked vein in the retina, but most commonly this is due to high blood pressure, raised cholesterol levels in the blood, smoking and diabetes, or simply as a result of ageing. Sometimes the cause

is not found. The doctor might request blood tests to determine the cause of this problem and will check your blood pressure.

What is Macular Oedema and how is this caused by the RVO?

When the vein gets blocked some blood leaks out. Clear fluid also leaks out causing 'water logging' of the retina. This damages your sight. The centre of the retina is responsible for your sharp vision, such as seeing people's faces or watching television. This central part of the retina is called the macula. If this central part becomes 'waterlogged' you get what we call 'Macular Oedema' and this causes your vision to deteriorate. Macula oedema is therefore one of the various signs of RVO.

RVO can also affect the eye in other ways, for example, by compromising the blood flow and the amount of oxygen reaching the eye. Macula oedema is the most important cause of visual loss related to RVO. If left untreated macula oedema can lead to irreversible loss of central vision. This is not always the case however, and in some cases the swelling improves without treatment. The doctor will discuss this with you following your examination and advise you of the likely prognosis both with and without treatment.

Why is Ranibizumab (Lucentis) being recommended for my eye condition?

Treatment might be recommended to you to improve your vision or prevent any further visual loss. The final decision to treat is usually made at the time of your appointment in clinic by your eye doctor on the basis of various tests performed on the day.

Lucentis has been shown, in studies, to successfully maintain and/or improve vision in patients with macula oedema related to RVO. Most patients will regain 1 to 2 lines of vision, depending on their level of vision when starting treatment and how serious the blockage of the vein is. Lucentis might not always restore vision that has already been lost and will not always prevent further loss of vision by the disease.

Factors that could influence the response to treatment include the damage done by the swelling and the condition of the blood circulation at the back of the eye. It is very important to ensure good control of diabetes, blood pressure and cholesterol with the help of your GP, as this is essential for preventing any similar problems from occurring in the future. Maintaining a

healthy diet, taking regular exercise and not smoking are also very helpful in preventing further blockages. We will, with your permission, write to your family doctor to provide the information needed in order for them to help you.

You do not have to receive treatment for your condition. However, without treatment, your central vision could start to, or continue to get worse over a fairly short period of time and reach the point where treatment may no longer help. Although macula oedema alone hardly ever causes complete blindness, it can reduce the vision to the point where it is only possible to see outlines to the side (known as peripheral vision) or movements, but no fine detail because of loss of central vision.

RVO can also affect your eye in other ways, for example by causing a bleed inside your eye or raising the pressure inside your eye and making it uncomfortable. Such problems can still progress, despite treatment for macula oedema and could be the cause of temporary or permanent visual loss. Additional treatments, such as a course of laser therapy, might be required to deal with such problems.

How is the treatment given?

You will be awake for the procedure. The pupil (black part of your eye) is dilated and anaesthetic drops are put in to numb the surface of the eye. The skin around the eye and the surface of the eye is washed with an antibacterial solution to reduce the risk of infection. The skin around your eye is then covered in a sterile drape. The drug (Lucentis) is injected into the vitreous humour (the jelly like substance inside the back of your eye). You might feel slight pressure on the eye when this is done, but you should not experience pain. After the injection into your eye you could have a gritty feeling in your eye, and there might be bleeding over the white of your eye. You should not worry about this, it will resolve with time. You might also see floaters; these will become smaller and disappear over a couple of weeks.

Lucentis injections are given at repeated intervals into the eye. The precise number of injections that might be necessary can vary considerably between patients. On each monthly visit the decision to give you another injection or not will be made on the day of your Macular Treatment Centre appointment based on your vision, the appearance of the back of your eye and the findings on a special eye scan (Optical Coherence Tomography).

It is often necessary to attend for eye examinations and/or injections on a regular basis and perhaps for several months. It is very likely that you will need to attend for a follow-up appointment every month for the first year of treatment.

What other treatment options are available?

Other forms of treatment are also available for macula oedema related to RVO. These can include treatment with a conventional or 'hot' laser (only suitable for cases where only a branch and not the whole vein is blocked) or other types of intravitreal injections, mainly a drug called Ozurdex which works differently to Lucentis.

All options which are appropriate for your eye condition will be explained to you by your eye doctor or nurse. We will reach a decision on the best way to deal with your eye problem together. At Manchester Royal Eye Hospital, you might also be offered new treatments as part of a clinical trial.

What are the risks of treatment?

The potential risks are outlined below and will be discussed with you by your eye doctor. Not everyone who takes the drug will experience side effects; however, as with any medicine, side effects are possible with Lucentis.

Risks of intravitreal eye injections

Common side effects which rarely cause any long term problems include:

- Temporary eye pain (often relieved by pain relief medication)
- Conjunctival haemorrhage (blood shot eye)
- Vitreous floaters
- Irregularities or swelling of the cornea
- Inflammation of the eye
- Visual disturbances such as small specks in the vision

Serious complications of the intravitreal injection procedure include:

- Bleeding
- Infection (endophthalmitis)
- Retinal detachment
- Cataract formation

Any of these serious complications could lead to severe, permanent visual loss. In the clinical trials, these complications occurred at a rate of less than 1 in 1000 injections. A detailed discussion of all related risks and benefits from treatment will take place with your eye doctor before you consent to having this treatment.

Complications of Lucentis in other parts of body:

There might be an increased risk of experiencing blood clots, which can cause heart attack or stroke, following intravitreal injection of medicines such as Lucentis. However, a low incidence of this was seen in the Lucentis clinical trials and the risk is not thought to be significant. Evidence from studies suggests that patients with a history of these conditions could be at greater risk. If you have had a stroke or heart attack, please discuss this with your eye doctor.

Coincidental risks

Whenever a medication is used in a large number of patients coincidental problems can occur that might have no relationship to the treatment. For example, patients with high blood pressure or smokers are at increased risk of heart attacks and strokes. If one of these patients being treated with Lucentis suffers a heart attack or stroke, it might be caused by the high blood pressure and/or smoking and is not necessarily due to their eye treatment.

Reducing the risk of infection

Antibiotic eye drops will be prescribed following your injection to reduce the risk of infection. If you have an eye infection on the day of your planned treatment, the injection might have to be delayed until the infection has resolved. Please inform your doctor or nurse if you have a sticky eye.

Is Lucentis guaranteed to work?

Although Lucentis has been shown to be effective for the majority of patients, the treatment might not work for you. Your condition might not get better or could become worse, despite these injections. Any, or all of the complications described above could cause decreased vision and/or a possibility of blindness. Additional procedures might be needed to treat these complications. During follow-up visits or phone calls, you will be checked for possible side effects and the results will be discussed with you.

Patient responsibilities

If you experience any of the following, please contact the hospital as soon as possible:

- Pain
- Blurred vision or reduced vision
- Sensitivity to light
- Redness of your eye (increasing compared to immediately after your injection)
- Sticky discharge from your eye

You should avoid rubbing your eyes or swimming for 3 days following each injection to reduce the risk of infection.

Please keep any post-injection appointment or scheduled telephone calls so that potential complications can be checked for.

Although the likelihood of serious complications affecting other organs of your body is low, you should immediately contact your GP or attend your local Accident and Emergency Department if you experience:

- Abdominal pain
- Abnormal bleeding
- Chest pain
- Severe headache
- Slurred speech
- Sudden limb weakness or numbness

What if I change my mind?

If you have any concerns, please discuss these with the doctor. You can change your mind about your treatment at any time.

Contact details

If you require further advice or do not understand anything contained in this leaflet, or are having problems following your injection, please contact the Macular Treatment Centre on 0161 276 3341 or 0161 276 5572 Monday-Thursday 9.00 am-5.00 pm, Friday 9.00 am-4.00 pm.



You may also contact the Emergency Eye Centre on 0161 276 5597 available 8.00 am-9.00 pm everyday including public holidays.

If your problem is urgent and the departments above are closed or you are unable to get an answer, please ring Ward 55 on 0161 276 5512 available 24 hours every day.

