

Retinal Vessel Occlusion

Information for patients

What are retinal vessels?

The retina at the back of the eye requires a constant blood supply. This blood supply makes sure that the cells of the retina get all the nutrients they need to continue working. The blood supply also removes any waste material that the cells have finished with. Like the rest of the body there are two types of blood vessels concerned with the blood supply to the retina; arteries and veins.

Arteries carry the fresh blood from the heart and lungs to all cells in our bodies. Veins take away the blood that has been used by the cells and return it to the lungs and heart to be refreshed with oxygen and other nutrients. This process happens every time our heart beats so there is a constant stream of fresh blood and nutrients reaching all the cells in our bodies.

A blockage in either a retinal vein or artery is medically known as 'retinal vessel occlusion'. Occlusion means closing or blocking up. They can happen in any blood vessel in the body, including retinal arteries and veins. A retinal vessel occlusion can affect sight.

What causes retinal vessel occlusion?

The main cause of a retinal artery occlusion is atherosclerosis. Atherosclerosis is a problem with the condition of the inside of the blood vessel's wall. A blood vessel is like a tube, which is usually wide and smooth with the blood flowing through it. However, in some people the inside of this tube becomes thinner and sticky which means it is harder for the blood to flow through it.

These patches of sticky blood vessels are called

atherosclerotic plaque, sometimes called hardening or thinning of the arteries and veins.

Problems occur because these sticky patches can catch any debris in the blood, which in turn makes the plaques bigger. If the plaques become bigger they can cut off part or all of the blood going to and from the retina. Large pieces of debris can also get caught and block off the blood vessel. This can then cause either a vein or an artery occlusion.

Are there any risk factors for retinal vessel occlusion?

There are a number of common risk factors; they are familiar since the problem can cause other problems like a heart attack or a stroke.

The main risk factors are;

1. Age – most retinal vessel occlusions happen in people over 65
2. High blood pressure
3. High cholesterol levels
4. Diabetes
5. Smoking
6. Overweight.

What is the difference between an artery occlusion and a vein occlusion?

Retinal artery occlusion

The retinal cells need a constant supply of fresh blood to keep working properly. If the arteries become blocked then this fresh blood cannot reach the cells, as it should. When this happens the retinal cells quickly suffer from lack of fresh oxygen. This stops them working and sight can be affected quite badly. The amount of sight affected varies according to the where the blockage has happened.

Retinal vein occlusion

The retinal veins drain away the used blood from the retinal cells. When one of these veins becomes blocked then the used blood cannot drain away properly. This causes the blood to 'back up' the system. This blocking and 'pooling' of blood can cause the area to swell and may also cause areas of haemorrhage (bleeding). These areas of swelling and backed up blood damage the cells of the retina and therefore damage sight. Again the amount of the loss of sight depends on where the blockage takes place.

Is there any treatment for retinal vessel occlusion?

Retinal artery occlusion

Unfortunately there is little treatment available, because the cells on the retina are very sensitive to a lack of blood supply. A disturbance for any length of time in fresh blood to the retinal cells will cause permanent sight loss.

Retinal vein occlusion

The sight loss caused by this kind of occlusion can sometimes get a little better on its own. Because the blood 'backing up' can cause swelling and bleeding, sometimes when this swelling and the blood that has leaked clears up, sight can improve a little. In a few but not all cases, an eye laser machine can be used to help control bleeding and swelling and this can mean that sight improves a little. Often the laser is also used to stop more damage happening so although no sight is restored the likelihood of losing more sight is reduced.

Sometimes a retinal vein occlusion can cause new blood vessels to grow around the centre of the retina (macula). If this happens this can affect vision quite badly. If new blood vessels do start to grow then sometimes they can be treated with a laser.

What happens next?

Retinal vessel occlusions are fairly common but there are ways of avoiding the chances of having one. Regular checks with your GP can discover whether you are at risk and if so treatment can be given to improve your chances of not having an occlusion. i.e, drugs to control high blood pressure and cholesterol levels.

What about my sight?

Retinal vessel occlusions come as a shock to most people. The sudden loss of vision can be upsetting. However, because the sight loss is usually in one eye only, people can quickly adjust to their new level of vision.

What about driving?

You may be concerned about driving following loss of sight in one eye, however, it is legal to drive with sight like this. As long as your sight in the other eye is good enough to see a number plate at 20.5 metres wearing any glasses that you may need and you have 120 degrees in your field of vision, you will legally be able to drive.

Who should I contact for further help and advice?

Please contact the hospital where you had your treatment.

Boothroyd Day Care

Dewsbury Hospital 01924 816155

Pinderfields Day/Short Stay Unit 01924 541854

Pontefract Day Unit 01977 747547

Waiting List office (operations) 01924 542987

Eye Condition advice 01924 816027

Other useful information can be found at:

NHS Choices - www.nhs.uk

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