

Radiology Department

Sclerotherapy for venous malformations

Information for patients



What are venous malformations?

Venous malformations are abnormally developed blood vessels with varying degrees of communication with normal veins. They are sometimes described as abnormal 'vascular lakes' or low flow lesions. They contain venous blood, which is very slow moving.

Supporting these vascular lakes is a solid component known as a matrix. The ratio of spaces and matrix within a vascular malformation varies considerably from patient to patient. It can differ to some extent within different malformations within the same person.

Venous malformations can occur anywhere in the body and are present at birth, although they may not become apparent until later in life. Other situations when they may become apparent are following episodes of local trauma (injury), at puberty, or during pregnancy – due to hormonal changes occurring at these times.

Depending on their location venous malformations may cause pain, swelling, restriction of movement or cosmetic issues. Occasionally the blood moves so slowly that the blood can clot within the malformation. Occasionally venous malformations can bleed especially if they are in a very superficial (near to the skin) position. Treatment may be necessary because of the appearance or for associated functional problems.

What are the symptoms of venous malformations?

- Typically the main symptoms include pain and swelling.
- A significant number of venous malformations involve the skin, giving a bluish discolouration and swelling. This can lead to cosmetic issues, depending on the site of the lesion.
- Intermittently the venous malformation can become more acutely painful, swollen and hard. This is mainly due to episodes of thrombosis (blood clot) within the lesion itself. These blood clots typically do not move to the lungs.

Can venous malformations be prevented?

At present there is nothing that can be done to prevent the development of a venous malformation but there are several forms of treatment available. These types of lesions usually occur spontaneously and are not inherited and cannot be passed on to children. There are several syndromes that can have a familial tendency but these are extremely rare.

How are venous malformations diagnosed?

Imaging techniques are generally used to make a diagnosis and to find out more about the lesion. Imaging can also help doctors decide when and how to treat the lesions. The most useful imaging for venous malformations is ultrasound and MRI.

Ultrasound

Ultrasound is a very useful imaging test that can be performed in clinic to assess the venous malformation. It is very helpful in assessing suitability for treatment.

MRI scan

This is the most useful imaging for low flow venous malformations. They are often known as “iceberg lesions” in that what you see is only the tip. MRI is able to demonstrate the total extent of the underlying malformation.

How can venous malformations be treated?

Treatment options are:

- conservative management
- percutaneous injections (sclerotherapy)
- surgery

or a combination of these. If there are no symptoms then there is no need for treatment.

At first it is important to determine the exact symptoms and to what degree this is distressing you or how much of an impact this is having on your life. The majority of venous malformations do not need treatment, but this can be reviewed at any time, especially if symptoms worsen or change. Venous malformations are not malignant and cannot become malignant (cancerous).

Conservative management includes pain relief with anti-inflammatory tablets, compression dressings if the lesion is in a limb, and changes in lifestyle where appropriate. This approach is usually advised if symptoms are well tolerated.

Treatment depends on the number of vascular spaces within the lesion and the amount of more solid tissue. Lesions with more spaces (i.e. more venous lakes) are more suitable for injection therapy or 'sclerotherapy' than those that are mostly solid in nature. Depending on the site, size and other factors certain lesions are suitable for surgical removal.

We will discuss treatment options with you.

What is 'sclerotherapy'?

Sclerotherapy treatment involves the injection of a special chemical into the venous malformation to ultimately shrink it and relieve the symptoms it is causing. It is typically carried out as a day case procedure in hospital.

Various substances can be used but most commonly the chemical used is Sodium Tetradecyl sulphate (Fibrovein). When injected into a lesion it causes an inflammatory reaction which leads to localised blood clots and the formation of a scar in place of the venous malformation, causing the malformation to shrink.

Sclerotherapy is carried out under ultrasound and X-ray control. This allows the doctor needs to make sure that the needle goes into exactly the right place and to assess the degree of communication with veins nearby.

Often a 'course' of multiple injections are required to adequately treat a venous malformation and it can be some time before you notice a significant difference. Not all venous malformations are successfully treated in this way but in the vast majority of cases significant results are achieved.

Sclerotherapy is not a 'cure' for these malformations but is aimed at controlling symptoms and reducing the size. Sclerotherapy may not treat skin discolouration associated with some malformations.

What are the risks of sclerotherapy?

- Immediately after the injection considerable swelling can occur along with pain. This usually settles within days or weeks of the injection. Pain is usually adequately treated with oral pain killers. It is when this swelling settles that there is a noticeable reduction in the size and / or symptoms of the malformation.
- There is a small risk of infection and bleeding but as

sclerotherapy is carried out via a needle puncture and not an incision (cut), this is unusual.

- There is a small chance that the skin over the malformation will break down and lead to a blister or even a small ulcer, but this will improve in time and possibly leave a scar. This is more common in superficial malformations that involve the skin or occupy a large area directly under the skin (subcutaneous). If necessary these scars can be improved with surgery.
- If a malformation is near a nerve or group of nerves the swelling caused by sclerotherapy can sometime compress the nerve and stun it. This can lead to loss of sensation in the area or even local muscle weakness. This can for example occur in facial lesions but is uncommon. This condition is termed 'neuropraxia' and if it occurs at all is often temporary and is rarely permanent.
- General anaesthetic is often required for sclerotherapy and this carries a small risk.

What are 'Lymphatic Malformations'?

Lymphatic malformations are another type of vascular abnormality. They are often large fluid filled spaces containing lymph instead of blood. These are called macrocystic lymphatic malformations. The other type of lymphatic malformation is 'microcystic' and this type contains multiple tiny spaces.

The macrocystic malformations are commonly diagnosed in childhood and can grow to be very large. They can occasionally compress nearby structures and if these are important, e.g. the trachea (windpipe), treatment may be required soon.

They are treated in a similar fashion to venous malformations using sclerotherapy and similar risks are present. The risk of this is minimal in most cases but this will be discussed with you before the procedure.

How to contact us

If you have any questions or queries please contact us on the number at the top of your appointment letter.

Further information

www.rcr.ac.uk – Royal College of Radiologists

www.cirse.org.uk – Cardiovascular and Interventional Radiology Society of Europe

www.bsir.org – British Society of Interventional Radiology

If you need an interpreter or need a document in another language, large print, Braille or audio version, please call **01865 221473** or email **PALSJR@orh.nhs.uk**

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