

Venous Malformations

■ What are venous malformations?

Veins are blood vessels that carry blood back towards the heart and are a low-pressure system.

Venous malformations (VM) are abnormally developed veins with varying degrees of communication with normal veins.

VM contains slow moving or stagnant blood and are classified as slow-flow vascular malformations.

When VM occur in combination with LM in the same lesion these are called veno-lymphatic malformations.



Lymphatic malformation

■ What do venous malformations look like?

VM can occur anywhere in the body and are present at birth, although they may not become apparent until later in life.

VM may appear as skin-coloured or bluish-grey soft to rubbery swellings. Sometimes there may be a purplish or dark brownish stain on the surface with small blebs. VM feel warmer than the surrounding normal skin.

VM usually grow in proportion with the child's growth. However, they may become more obvious after episodes of local trauma, at puberty or pregnancy due to hormonal changes occurring at these times.

VM are not known to become cancerous later in life.

■ What problems can venous malformations cause?

Depending on their location, VM may cause pain, swelling, bleeding, restriction of movement or cosmetic issues.

Clots can form within the malformation that can lead to swelling and pain. This tends to occur at night when there is little movement and certain sleep postures that compress on the draining vein of the VM. Sometimes, the clots can dissolve on its own leading to a decrease in swelling and pain.

Rarely, VM may be part of a vascular malformation syndrome e.g. Klippel-Trenaunay syndrome (KTS) where the affected limb can become larger or longer than the normal limb and there may be abnormal large "anomalous" vessels that may clot easily.

■ How are venous malformations diagnosed?

VM are diagnosed by a combination of clinical history, physical examination and diagnostic imaging including plain radiographs, ultrasound, magnetic resonance imaging (MRI), computed tomography (CT) imaging. Very rarely is diagnosis necessary by tissue biopsy.

An X-ray, may demonstrate calcified clots known as phleboliths that are diagnostic of VM when present.

Ultrasound is a useful non-invasive, painless test in the diagnosis of VM, as well as to mark their extent to plan for treatment. It can be performed either in the clinic or at the diagnostic imaging centre. A probe is placed on the skin over the site of the suspected VM to look at its extent and flow characteristics. Depending on the size of the lesion, this may take 10 to 30 minutes and will require some cooperation from the child.

MRI is the most useful imaging for diagnosis of VM as it objectively demonstrates the size and extent of the lesion including any deep involvement. There is no radiation involved. However, the child needs to stay still for about 30 to 60 minutes in a noisy environment, rarely longer, thus requiring general anaesthesia (GA) for infants and younger children who are unable to cooperate. GA is administered by our team of paediatric anaesthetists.

Tissue biopsies are very rarely required for the diagnosis of VM. If required, this involves cutting the skin and removing a small piece of tissue to look under the microscope. This procedure may be done under local anaesthetic if the child is cooperative. Otherwise, it can also be performed with sedation in the ward or with GA in the operating theatre.

■ How are venous malformations treated?

Treatment for VM may be indicated for associated functional problems or to improve the appearance.

Treatment options for VM include conservative management, oral medicines, sclerotherapy, lasers, surgery or a combination of these.

If there are no symptoms or the symptoms are mild, treatment may not be necessary and the child is reviewed regularly.

Conservative management includes pain relief with anti-inflammatory tablets, compression garment if the lesion is in a limb, and alteration of lifestyle accordingly.

If definitive treatment is required, the type of treatment depends on various factors including the extent (size, depth), location (near joints, nerves) and complexity (tortuosity of the channels) of the lesion.

Sclerotherapy is a type of treatment that involves the injection of special medications / chemicals into the VM to ultimately shrink it and relieve its related symptoms.

Depending on the site, size and complexity, certain lesions are also suitable for surgical removal.

Some VM that are not easily treated with sclerotherapy or surgery may be treated with an oral medication called sirolimus.

Lasers may be a useful “add-on” treatment for VM that have a superficial component.

The various treatment options will be discussed with the patient and caregiver at the Multidisciplinary Vascular Anomalies Clinic.

Useful telephone number

Central Appointments

6294-4050



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