

Swelling of the leg is a common issue in litigation

By PHILIP COLERIDGE SMITH DM MA BCh FRCS

Consultant Vascular Surgeon, Medical Director of the British Vein Institute and Emeritus Reader in Surgery at UCL Medical School

➡ **LEG SWELLING** is a common symptom in patients and arises from a number of conditions. Claimants may suffer lower limb swelling following injuries to the lower limb and the question often arises as to the causal relationship between the injuries sustained and the prognosis.

In clinical negligence litigation, deep vein thrombosis may occur when preventative measures are omitted following hospital treatment. That can leave claimants with long-term swelling of the leg. A number of less common diagnoses may lead to leg swelling accompanied by diagnostic confusion.

Causes of leg swelling

A number of conditions may give rise to a generalised tendency to swelling of the body, although it most commonly affects the legs. Heart failure, liver failure and kidney failure all fall into that category, but are not usually in the realm of the vascular surgeon.

Leg swelling is commonly due to the presence of oedema; that is, accumulation of water in the tissues. It occurs following any injury, operation on the leg or inflammatory process and usually resolves as the original injury or operation heals. General measures such as elevation of the leg or the use of compression stockings will help. That leaves conditions which cause swelling of the main tissues of the leg, which are the subcutaneous fat and the muscles of the leg.

Deep vein thrombosis

In this condition the main veins of the leg become blocked with blood clot. That may occur following lower limb injuries, especial where operative treatment is required. In fact, any hospital treatment gives rise to an increased risk of deep vein thrombosis, even when surgery to the leg has not been done. Prompt anticoagulant drug treatment is effective in resolving the condition. Delay in diagnosis and appropriate treatment leads to a much worse outcome.

I have advised in several cases where claimants have alleged that delayed start of anticoagulant drugs led to permanent leg swelling, with the risk of leg ulceration in the future. Often the claimant has succeeded in those cases. In one case, delayed treatment led to cessation of blood flow in the leg, with gangrene and the need for an amputation. That claimant successfully argued that appropriate treatment would have avoided the need for amputation.

Some patients who have experienced a deep vein thrombosis have troublesome swelling of the leg. That appears to arise from two sources. Where the main veins from the limb are blocked the blood has to leave the

leg via much smaller alternative (collateral) routes of venous drainage. They are less effective than the normal veins, which are large in diameter. Persistently blocked main veins commonly give rise to swelling of the leg. The whole limb may be affected when the femoral vein in the groin is affected or the veins above that level.

Another problem that gives rise to leg swelling is loss of the venous valves. These are often irreversibly damaged following a deep vein thrombosis. The purpose of the valves is to ensure that blood in veins flows only towards the heart. When the valves are damaged following deep vein thrombosis, blood flows back into the leg and leads to high pressures in leg veins. The calf muscle expands to try and expel blood from the leg. The calf increases in size, which patients find uncomfortable and unsightly.

The main problem with high pressures in leg veins is that they lead to skin damage and leg ulceration – chronic, non-healing wounds of the leg – resulting in a lifelong requirement for care and treatment. The cosmetic problems, discomfort, pain and suffering, and the treatment required for those conditions, are cost elements in claims following deep vein thrombosis in the leg.

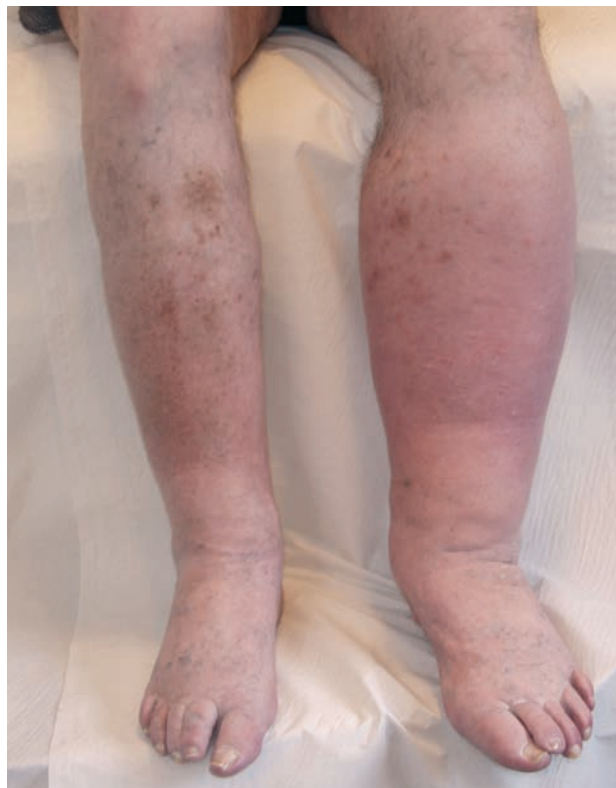
Lymphoedema

The lymphatic vessels are an extensive set of vessels that drain extracellular fluid (fluid outside blood vessels which bathes the cells of the body) from the limbs. They are small and fragile vessels which are easily damaged. The superficial lymphatic vessels lie near the great saphenous

vein, which runs the length of the leg up the inside of the limb. Where lymphatic vessels are damaged the syndrome which results is known as lymphoedema.

In this condition fluid accumulates within the subcutaneous tissues of the leg, leading to swelling of the limb. The worst affected region is the foot, where swelling begins, and is most prominent on the top of the foot. With worsening of lymphoedema, the swelling involves the ankle and calf. In severe cases, the whole limb may be affected.

The most common causes of lymphoedema are severe bacterial infections of the lower limb and cancer surgery. Tumours may spread via the lymphatics and sections of the lymphatic system are removed during cancer surgery. Patients should be warned of the likelihood of lymphoedema affecting the upper or lower limb, depending on the region of surgery. Bacterial infections may enter the lymphatic vessels, which form part of the body's defence system for infections. Cellulitis affecting the lower limb may lead to persistent lymphoedema of the foot or leg.



Lymphoedema of the left lower limb following an episode of severe cellulitis which occurred following a minor injury to the limb

Litigation in cases of lymphoedema usually arises from trauma to the limb. I have advised in cases where regions of tissue loss in the lower limb included the main lymphatic system leading to lymphoedema of the limb below the level of injury. Old fashioned varicose vein surgery involved dissection in the groin, a region through which the main lymphatic vessels pass. I have come across several cases in which substandard varicose vein surgery has led to lymphoedema affecting much or all of the lower limb. I have advised a number of litigants in such cases.

Fortunately, varicose vein surgery has largely been abandoned in favour of more modern and much less invasive techniques, which avoid this potential complication.

Lipoedema

Lipoedema is a congenital condition which involves swelling of the lower limbs due to preferential deposition of subcutaneous fat. As a result of the condition the legs become large, but there is no substantial accumulation of fluid. Ultrasound imaging shows a subcutaneous layer which is thicker than would be expected, but contains no excess of fluid – in contrast to lymphoedema. Another factor distinguishing this condition from lymphoedema is that the feet are not affected and have normal, minimal amounts of subcutaneous fat. The increased fat deposition extends to the calf and thigh and may also include the hips.

Patients with the condition tend to accumulate fat preferentially in the lower limbs when they put on weight. In a small number of cases where I have advised it has led to claimants assuming that leg swelling was due to injuries sustained in road traffic incidents. In those cases it is likely that the lipoedema has been emphasised after the claimants put on weight in the aftermath of the incident. The lipoedema was present prior to the incident.

To sum up, personal accident and clinical negligence litigation may involve the subject of swelling in the leg. Several different causes of swelling may arise and the success of litigation depends upon detailed evaluation of the circulation of the limb to determine the causation. □

Mr Philip Coleridge Smith DM MA BCh FRCS
Consultant Vascular Surgeon
Medical Director, British Vein Institute



20 years

Defendant instructions

Claimant instructions

Single joint expert

Court experience

Areas of experience:

- Surgery of veins and arteries
- Sclerotherapy & laser ablation of varicose veins
- Varicose veins
- Deep vein thrombosis
- Pulmonary embolism
- Leg ulcer
- Lymphoedema
- Peripheral ischaemia
- Injury to blood vessels
- Medical negligence and personal injury

Office address:

British Vein Institute, 24-28 The Broadway, Amersham HP7 0HP

Tel: 0870 609 2389 Fax: 0872 111 7042

Email: p.coleridgesmith@bvi.uk.com

Web: www.medical-expert-witness.co.uk www.bvi.uk.com