Lipodermatosclerosis: the common skin condition often treated as cellulitis

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An 84-year-old Caucasian female was transferred from an emergency department to a frailty assessment unit following a fall and fracturing her right distal femur. She had bilateral lower leg swelling, pain and erythema (Figure 1). In the emergency department she had been started on flucloxacillin for bilateral cellulitis. However, the blood results showed no evidence of active infection. Following the comprehensive geriatric assessment the antibiotics were stopped and the patient's condition was diagnosed as lipodermatosclerosis. Lipodermatosclerosis is a term used to describe skin changes in the lower legs as a consequence of venous insufficiency and venous stasis. It typically presents with redness, swelling, increased pigmentation and skin induration with an inverted champagne bottle appearance.[1] It can present as an acute or chronic condition (Table 1).[1] Venous eczema is a common presentation in the elderly, affecting around 20% of people of people above the age of 70 years. A total of 10% of people with varicose veins go on to develop skin changes.[2] The pathophysiology of lipodermatosclerosis is not completely understood; however, it is thought that it is related to venous hypertension, venous incompetence and obesity. Venous incompetence leads to extravasation of intravascular fluid, depriving tissues and cells of oxygen. The damaged tissue causes microthrombi formation and infarction, eventually leading fibroblasts to form granulation tissue.[3] Diagnosis is usually made clinically, in the absence of routine skin biopsies. Cellulitis accounts for approximately 2–3% of all hospital admissions (with lower limb cellulitis being most prevalent).[4] In our experience in the clinical environment, lipodermatosclerosis is often treated as cellulitis owing to similarities between the conditions. An estimated 10% of people treated for cellulitis do not have it, leading to incorrect use of antibiotics and delaying the correct treatment. Features of acute lipodermatosclerosis can resemble cellulitis.[3]

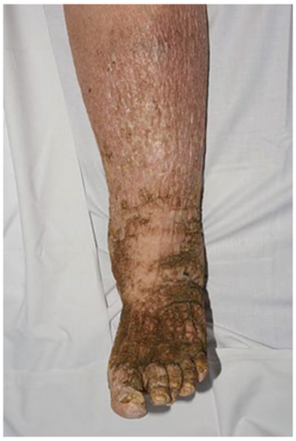

Figure 1 Left lower limb showing changes of lipodermatosclerosis

Table 1 Some features of acute and chronic lipodermatosclerosis

Acute	Chronic
Pain	Pain
Red	Hardened
Tender	Thickened
Warm	Moderate redness
Usually middle aged	Increase pigmentation
	Atrophie blanche
	Oedema
	Varicose veins
	Leg ulcers

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Chronic lipodermatosclerosis has a gradual onset over years. Typically nontender legs, with sharply decreased diameter from knee to ankle, with bound-down skin are factors that help distinguish the condition from cellulitis.[3]

Whilst there is a trouble differentiating between these two conditions, they can often present together. A total of 25–50% of patients treated for lower limb cellulitis have associated skin disease comorbidities (such as venous eczema), ulceration and oedema. These associated issues are often overlooked and mismanaged, putting strain on hospital resources, increasing number of hospital admissions and length of hospital stay. It also puts the patient at risk of developing hospital-acquired infections and builds antibiotic resistance owing to inappropriate use. Venous stasis and eczema predisposes patients to developing opportunistic infections in affected areas.[4]

Primary management of lipodermatosclerosis revolves around correction of venous stasis using compression therapy and weight reduction.

Other management options include vein surgery, such as sclerotherapy and laser ablation; ultrasound therapy; fibrinolytic agents, such as stanozolol; pentoxifylline to improve blood flow; topical agents, such as corticosteroids; and analgesia, such as capsaicin, to reduce pain.[1]

References

1 DermNet New Zealand. Lipodermatosclerosis. 2018. https://www.dermnetnz.org/topics/lipodermatosclerosis/ (accessed 25/05/18).

2 National Institute for Health and Care Excellence Clinical Knowledge Summaires. Venous eczema and lipodermatosclerosis. 2018. https://cks.nice.org.uk/venous-eczema-and-lipodermatosclerosis#!backgroundsub:2 (accessed 25/05/18).

3 Keller EC, Tomecki KJ, Alraies MC. Distinguishing cellulitis from its mimics. *Cleve Clin J Med* 2012; 79: 547–52.

4 Windfield C. Lower limb cellulitis: a dermatological perspective. *Wounds UK* 2009; 5: 26–7.