

An alternative treatment for acroangiodermatitis: intermittent pneumatic compression therapy

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To the Editor:

An obese 67-year-old woman presented at our dermatology clinic with a 2-year history of purple skin lesions on her lower limbs. She had a past history of rheumatoid arthritis, diabetes mellitus, hypertension, and asthma. Her dermatological examination consisted of purple-pink multiple papules on the right lateral malleolus and a 5 × 6 cm pink-purple plaque on the anterior surface of the left leg. Both legs appeared edematous and Stemmer's sign was positive (Fig. 1). A Doppler ultrasound test revealed minimal reflux of the right proximal femoral vein. No reflux was seen of the venous system in the left leg. Subcutaneous edema was present in both lower limbs. Histopathologic examination of a punch biopsy revealed orthokeratotic hyperkeratosis, epidermal thinning with capillary proliferation, extravasations of erythrocytes, and fibrosis of the superficial dermis (Fig. 2). With these findings, the patient was diagnosed with acroangiodermatitis.

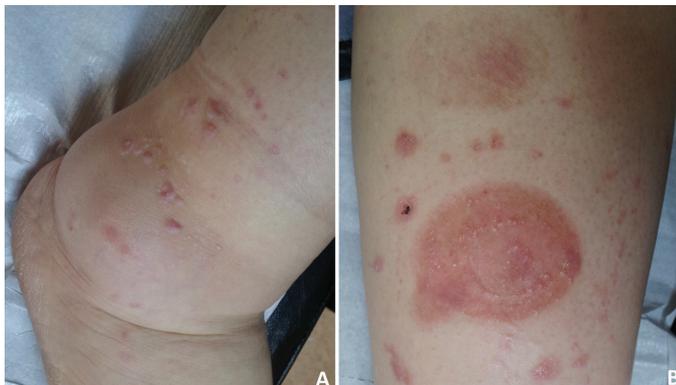


Figure 1 | A – Multiple pink-purple papules on the right leg. B – A 5 × 6 cm purple plaque on the anterior left leg.

Acroangiodermatitis is a benign angioproliferative disease caused by chronic venous insufficiency, arteriovenous fistulas, limb paralysis, and thrombotic events (1). Lesions present as violaceous macules and patches that transform into papules and plaques. It mainly affects the lower limbs, particularly the dorsal aspects of the foot (1–3). The treatment depends on treating the underlying circulatory disturbances. Bed rest, extremity elevation, and compression bandages can be used for treatment. Furthermore, there are cases that improve from oral dapsone and erythromycin treatment (2–5) (Table 1).

Our patient's lymphedema was significant. The patient had no history of malignancy, lymphadenectomy, or radiation therapy that could have caused the lymphedema. We considered rheumatoid arthritis and obesity for the etiology. With conservative treatment (extremity elevation recommended), we used pneumatic compression therapy to reduce the patient's lymphedema.

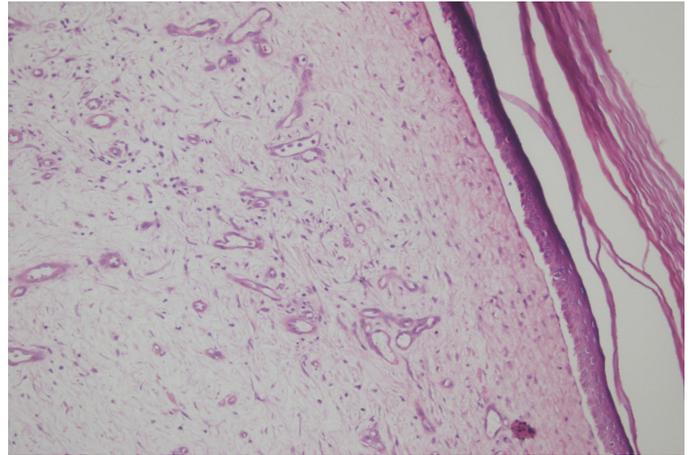


Figure 2 | Proliferation of capillaries, extravasations of erythrocytes, and fibrosis of the superficial dermis. (HE × 40)

Table 1 | List of treatments used for acroangiodermatitis.

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| 1) Extremity elevation (1–3) |
| 2) Compression bandages (1–3) |
| 3) Topical steroids (3) |
| 4) Oral erythromycin (4) |
| 5) Oral dapsone (5) |
| 6) Surgery (for AVM) (2, 3) |

Intermittent pneumatic compression (IPC) is a treatment option for a variety of circulatory disorders. It can be used for venous thromboembolism prophylaxis, lymphedema, chronic venous disease, and venous ulceration (6). IPC devices consist of an inflatable boot and a pump that fills the boot with air (7). The boot is intermittently inflated and deflated, with cycle times and applied pressure that mimic the action of the muscle pump (7, 8). Devices can have single or multiple chambers. Multi-chambered pumps inflate in sequential order from distal to proximal in order to produce an ascending pattern up the extremity (8). IPC reduces venous stasis and increases flow velocity in the deep veins, which decreases venous pressure, interstitial edema, and leakage of blood, fibrin, and protein from the skin capillaries (6).

IPC treatment was planned for five procedures twice a year for reducing lymphedema. After the pneumatic compression treatments (pneumatic pressure was started at 40 mmHg and with every other procedure the pressure was increased by 20 mmHg, ending with 80 mmHg pressure), the patient's skin lesions regressed (Fig. 3). The patient is still attending IPC therapy sessions.

To conclude, pneumatic compression therapy can be an alternative treatment for acroangiodermatitis if the underlying cause is appropriate to IPC treatment.

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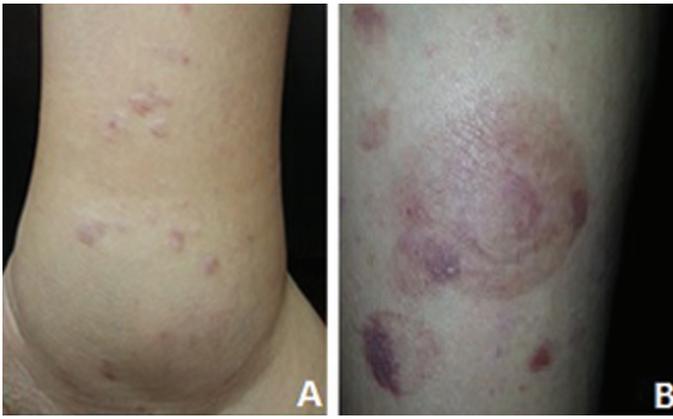


Figure 3 | After five sessions of pneumatic compression therapy.

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