Compression in dermato-lymphangio-adenits

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The term *dermato-lymphangio-adenits* (DLA) has been proposed by Olszewski[1] describing clinical symptoms, which are frequently called erysipelas or cellulitis and which are characterized by local tenderness and erythema of the skin, sometimes red streaks along the distribution of the superficial lymphatics and enlarged inguinal lymph nodes. Systemic symptoms include malaise, fever and chills. This entity occurs mainly in patients with disturbed lymph drainage, which is often unrecognized, most commonly on the extremities, which show increased swelling (Figure 1). Unlike in other ordinary infections of the soft tissues, it is extremely important that the disturbed lymph flow is treated in association with the usual antibiotic therapy (Figure 2).

Recent epidemiologic studies conducted by our team proved that approximately 1% of admissions to Emergency Departments in Italy are due to acute disease of the lymphatic system.[2,3]

We found that approximately 80% of patients were admitted because of acute or sub-acute DLA of different origins as complications of existing lymphatic obstructions, whether primary or secondary.

Compared with the dozens of millions of admissions to Italian Emergency Departments every year, the figures processed by our team strikingly show a high risk of misdiagnosis and medical malpractice, which delay the proper management and specific treatment of such severe conditions.

The acute inflammatory symptoms, that are specifically associated with an impaired lymphatic system, are often confused with the symptoms of thrombophlebitis and these patients are therefore wrongly treated with low-molecular-weight heparins only.

To get a more accurate diagnosis, we have to come up with a specific diagnostic *score* (lymphangitis score), consisting of 8 simple anamnestic-semiology points, in the attempt to help doctors to reduce false negatives in their differential diagnoses (Table 1).

Preliminary unpublished data about the medical application of this Score have shown it to be a highly sensitive tool (>99%), which reduces false positives (<4%, if supported by blood and laboratory tests).

In patients where there is a clinical suspect of DLA, maybe supported by such Score, the obstruction in the lymphatic system that is involved as a primary cause of the inflammation must therefore be treated. In such cases a multi-component bandage is necessary to improve lymphatic drainage in addition to the usual broad-spectrum antibiotics and to the complex physical therapy of lymphedema.

This specifically means a strictly short-stretch inelastic functional bandage (<40% stretch), even better if associated with a zinc oxide or alginate dressing underneath.

Figure 3 demonstrates clearly that the inflammation of the skin of the lower leg completely disappeared under the bandage while it is still visible in the proximal parts of the limb.

Usually, patients perfectly tolerate a functional bandage and failures are often due to wrong bandaging techniques or to the use of unsuitable materials.

Based on the medical experience gained in emergency and urgent surgery areas, poor compliance must lead us to look for underlying comorbidities, or to change the initial antibiotic treatment provided, if we are sure the limb has been properly bandaged.

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Recently, for instance in wound care, new materials are being produced, such as medicated bandages, where the classic zinc oxide is replaced by a calcium alginate mixture (excellent for treating the exudate) and manuka honey still maintaining their inelastic properties.

Table 1. Simple scoring system to diagnose dermato-lymphangio-adenits. Diagnosis can be made if 3 or more criteria are present (not applicable after trauma).

1. Fever up to 41°C
2. *Rubor:* redness, cutaneous hyperaemia (with normal US-Duplex)
3. *Calor:* local heat (with normal US-Duplex)
4. Dolor: local pain (with normal US-Duplex)
5. *Tumor:* swelling or increase of edema (with normal US-Duplex)
6. Anamnestic data for lymphatic and/or venous insufficiency
7. Palpable swelling of local lymph nodes
8. Recent primary infected lesion on the affected limb

US, ultrasound.

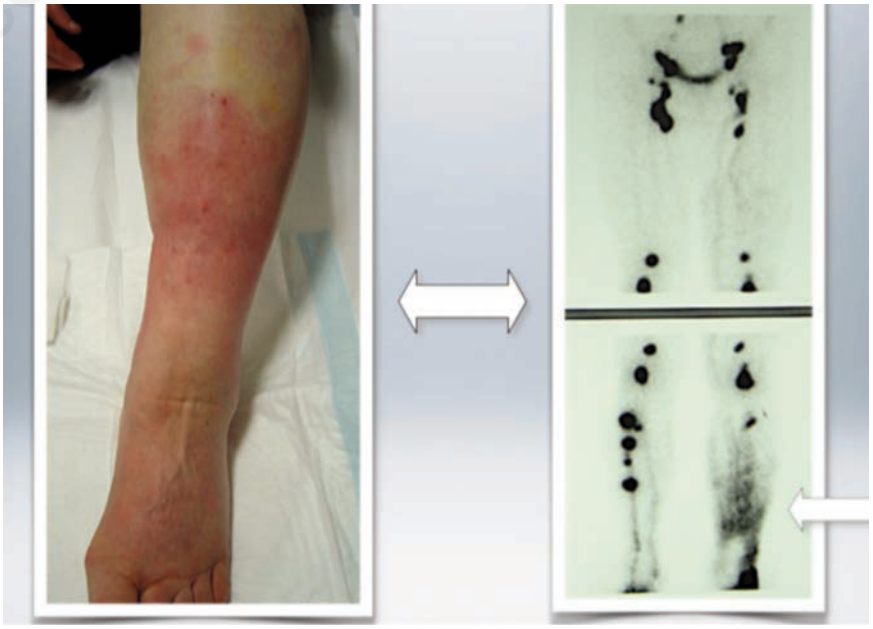

Figure 1. Erysipelas in a leg showing the lymphoscintigraphic pattern of dermal backflow.

Figure 2. Management of dermato-lymphangio-adenits: in addition to antibiotics compression therapy is recommended to treat the underlying lymphatic pathology.

Figure 3. A bandage applied to the lower leg with erysipelas is able to reverse the clinical sign of redness, which starts proximally where no bandage was applied.

Actually, while the topical use of antibiotics seems to be effective only to a limited extent. Preliminary data support the use of manuka honey, occasionally associated with other watery substances, because of its excellent antibacterial activity.

Unless a synergic effect is created between the systemic pharmacological treatment and the overall local therapy (designed to improve lymphatic drainage), the inflammation will relapse in most cases, sometimes even very quickly.

In daily practice, the combined treatment of the lymphedema using compression dramatically reduces frequent infectious complications in chronic patients.

Erysipelas of the extremities is an excellent indication for compression therapy. We prefer short stretch material (zinc paste) for the acute stage, combined with walking exercises as soon the patient is without fever.

References

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