Compression in vasculitis

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Cutaneous vasculitis is a pathological process characterized by inflammation of the skin blood vessel wall leading to an alteration of the blood flow, ischemia and tissue damage. The most important histopathologic feature is an inflammatory cell infiltration with fibrinoid necrosis and destruction of blood vessels. The heterogeneous group of vasculitic disorders has been classified not only by primary and secondary causes but also by the size of the affected vessel. The diagnosis is based on clinical features and tissue and laboratory evaluation.

Vasculitis affecting small vessels is the most common type in dermatology, also known with the histologic term of leukocytoclastic vasculitis.

The distribution of skin lesions often starts on dependent areas (*e.g.*, feet, lower legs, buttocks) before becoming generalized. This is due to the effect of hydrostatic forces on the post capillary venules leading to the preferential deposition of immune complexes at these sites. The major cutaneous manifestation is represented by a palpable purpura. The evolution of skin lesions depends on the etiology and can be acute resolving, within several days to weeks, or chronic persisting, from months to years. The clinical presentation is characterized by increasing crops, evolving from palpable purpura to papules and nodules, leading to a significant post-inflammatory hyperpigmentation. The lesions are commonly palpable and non-blanching, often demonstrated by applying pressure with a glass tumbler. Purpura is due to extravasation of red blood cells and can be associated with vesicles, bullae and ulcers.

Small vessels vasculitis are idiophatic in the 50% of the cases or associated with drugs, infections, in particular hepatitis, Wegener's granulomatosis, Churg Strauss syndrome and Henoch-Schonlein purpura. The major pathogenetic mechanism is an immune complex reaction with a leukocytoclastic vasculitis with predominantly neutrophilic infiltrate.

The treatment depends on the cause of the cutaneous vasculitis. If the underlying pathology is a primary vasculitis, treatment is based on the disease severity and systemic involvement. If the vasculitis involves only the skin, conservative measures can be undertaken. They include corticosteroids and immunosuppressive drugs while, when associated, skin ulcer local treatment can include moist wound dressings and bandaging. In addition, patients can receive basic instructions on self-care, including recommendations about diminish the factors known to exacerbate vasculitis such as excessive standing, cold exposure, wearing tight-fitting cloths, and promote rest as the legs elevated.

Compression by bandages has not yet shown to be useful in vasculitic skin lesions, so far.

In the Department of Dermatology of the University of Pisa we have treated 31 patients (female:male = 3:1) in the age range between 26-65 years. The eco color Doppler did not show significant findings in 28 patients and was positive for venous insufficiency in 3 patients. 15 patients were affected by small or medium vessels vasculitis, 3 by rheumatoid arthritis, 2 by Churg Strauss syndrome, 4 by cryoglobulinaemia, 1 by Sjögren syndrome and Behçet disease and 1 by necrotizing vasculitis.

We have evaluated the patients attending our clinic together with the rheumatologists. During the first clinical manifestation of skin lesions we started systemic drug and compressive short stretch bandaging. In case of relapse we applied compression by bandages before increasing the dose of systemic therapy or switching to a new drug. Only in a few cases we applied an ultraportable negative pressure therapy.

In our experience compression therapy by short stretch bandages in vasculitic ulcers with or without venous insufficiency, was very useful in order to improve the healing time, relieve the burning sensation and pain, due to the reduction of inflammation of blood vessels.

In our opinion the compression therapy can be used in the inflammatory phase of vasculitis with or without leg ulcers in order to reduce the administration of systemic steroids.

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