Abdominal Lipodermatosclerosis and Elephantiasis Nostras Verrucosa

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With the recent obesity epidemic, cases of abdominal lipodermatosclerosis are increasingly observed.

A morbidly obese man (weight over 400 lb) with multiple medical comorbidities and a long history of extensive psoriasis is hospitalized for the third time for cellulitis of the abdominal wall. The skin of the wall is rock hard, with pebbly nodularity of the surface. The skin condition on the belly that is predisposing to recurrent abdominal cellulitis is lipodermatosclerosis (LDS), also known as stasis panniculitis—a chronic inflammation of the fat. While its exact cause is not fully understood, venous hypertension and elevated body mass are known to underlie the condition. The condition has been almost exclusively described on the lower legs. However, with the recent obesity epidemic, cases of abdominal LDS are increasingly observed. In published cases, and in the author’s experience with 3 cases, abdominal LDS is seen in the context of morbid obesity. Clinically, the skin becomes thickened and hard, indurated, red and discolored with secondary surface changes.

LDS has been described as acute or chronic. The acute phase frequently follows a recent trauma or injury: the presenting manifestations—pain, erythema, and warmth—are difficult distinguish from and frequently mistaken for cellulitis. Chronic LDS may follow episodes of acute disease and manifest with pain, hardening, thickening redness, discoloration, and scarring of the skin. Edema, skin ulceration, and local infection may eventuate. Chronic lymphedema is a dermal process that can also contribute to the development of LDS. End-stage lymphedema can also present with nodular plaques referred to as elephantiasis nostras verrucosa (ENV). This condition is seen almost exclusively in the morbidly obese: one study reported 91% morbid obesity in a series of 21 patients. ENV is associated with recurrent soft tissue infection and chronic venous insufficiency.

The diagnosis of LDS and ENV is clinical. Skin biopsy, ultrasonography, and MRI can substantiate the diagnosis.
Treatment of LDS and ENV of the abdomen is not well studied. Extrapolating from published data on lower extremity disease, weight reduction would likely be helpful but is difficult to achieve. Topical and intralesional corticosteroids can reduce local pain and inflammation. Pentoxifylline can locally increase blood flow for venous insufficiency. Both venous insufficiency and lymphatic insufficiency predispose the affected skin to localized skin infection. Therefore, antibiotic coverage may be indicated, even when no gross cellulitis is evident. Psoriasis, lichen planus, and eczema are papulosquamous conditions in which the pathology lies in the epidermis or at the dermal epidermal junction. LDS and ENV are dermal infiltrative disorders and can be seen concomitantly.

References:
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