Local Panatrophy Associated with Pain: A Rare Variant of Local Panatrophy or a New Entity?

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To the Editor: Local panatrophy, first described by Gower in 1903 and also called panatrophy of Gowers, is an exceptionally rare disorder characterized by asymptomatic atrophy of the overlying skin as well as partial or total loss of subcutaneous tissue, and may involve the underlying muscles and bones.[1,2] Herein, we reported a case with such a condition associated with severe pain.

An otherwise healthy 19-year-old Chinese Han man was referred for painful atrophic patches. Two years before his presentation, an asymptomatic atrophic patch on the left posterior aspect of trunk appeared, which gradually increased in size. Five months ago, progressive lightening pain on the lesion occurred, lasting from tens of minutes to hours and attacking 3–4 times daily. Two months ago, two new red patches presented, which were located above the previous one in a vertical linear pattern, associated with severely progressive lightening pain and increased gradually in size. Warmth, movement or stimulating the lesion could trigger the attack or worsen the pain, while cooling or rest could relieve the pain. The pain had poor response to celecoxib or indomethacin above the previous one in a vertical linear pattern, associated with warming and flaring pain presented during the pain attacking. No other parts involved. By B-ultrasonic scan, the thicknesses of the epidermis plus dermis/subcutaneous tissue for lesions 1, 2, and 3 were 2.5 mm/4.2 mm, 3.0 mm/4.2 mm, and 2.4 mm/2.4 mm, respectively, while those of normal skin on the mirror parts of opposite side were 4.2 mm/4.6 mm, 4.3 mm/4.6 mm, and 3.9 mm/3.9 mm, respectively.

Magnetic resonance imaging revealed atrophic both dermis and subcutaneous tissue over the lesions, with preference in lesion 3, and the underlying muscles, skeletons, and spine nerve showed normal. Biopsies from the center of both lesions 1 and 3 showed pigmented basal layer of the epidermis; decreased epidermis, dermis, and subcutaneous tissue including fat tissue; and slight perivascular lymphocytic infiltrate in dermis; with predominance in lesion 3 [Figure 1b and 1c]. No inflammatory infiltrates were presented in the skin nerve [Figure 1b]. The biopsy from the perilesion showed mild inflammatory infiltrate [Figure 1d]. Aldehyde-fuchsin stain revealed that specimens from lesion 1 and from perilesion 3 showed fragmented and rarefied elastic fibers in the dermis, but only mild alterations in lesion 3 except for evident decrease of dermis and subcutaneous tissue.

Autoantibodies and antinuclear antibody serology for syphilis and Lyme borreliosis were negative. During 5-year follow-up, lesion 3 progressed slowly in size while the rests changed mildly, the pain had moderate self-alleviation, and no new lesions occurred.

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Based on the clinical and pathological alterations, we considered that the present case was a variant of local panatrophy associated with pain rather than a new entity. Of course, we could not absolutely exclude the possibility that the present condition
represented a new clinicopathologic entity. The possible reasons for the different presentations of elastic fibers in advanced lesion, developing lesion, and peri-lesion were that most elastic fibers in the dermis of advanced lesion disappeared or lost while elastic fibers in developing lesion and perilesional area were just damaged alone, implying that the elastic fibers were damaged in early stage and most damaged fibers disappeared later. However, the reasons why the pain had poor response to therapeutics remain unknown.

The differential diagnoses mainly include anetoderma, mid-dermal elastolysis, focal dermal hypoplasia, lupus panniculitis, and localized scleroderma. Based on their clinical and histological features, making a correct diagnosis is not difficult.

**Declaration of patient consent**
The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**
There are no conflicts of interest.

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