Case Letter

An old diagnosis resurfacing in times of lockdowns: A case of lipoatrophia semicircularis induced by elastic band use

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Dear Editors,

Lipoatrophia semicircularis (LS) is an uncommon disorder characterized by semicircular or band-like depressions of the skin, most often localized on the lower limbs. This condition shows a female preponderance, with a median age at the time of occurrence around 40 years (Presta et al., 2016). The main cause is chronic pressure applied during repetitive movements or static positions held for a prolonged time, generally resulting from workplace exposure (Hermans et al., 1999; Nagore et al., 1998; Perez et al., 2010). LS is usually an asymptomatic condition, and its diagnosis is based on clinical examination.

Shortly after the end of the first lockdown related to COVID-19 pandemic in Italy, a 20-year-old woman, a young actress, presented to our department with a 2-month history of bilateral, linear depressions on the anterior aspect of the thighs (Fig. 1A). The skin overlying the affected area showed no signs of inflammation. The patient did not report any comorbidities and denied a recent history of trauma. Moreover, she did not hold a desk job. Given the clinical suspicion of LS, we asked the patient if she had a history of prolonged or repeated pressure on both thighs. She told us that, since the closing of the gym, she had started an intense home workout regimen using elastic bands for resistance (Fig. 1B).

High-frequency longitudinal sonography showed reduced thickness of subcutaneous tissue in the affected area, with a slightly increased echogenicity due to a greater fibrotic component. For comparison, scans were taken from the right thigh at its middle third, at the level of the surface depression (Fig. 2A), and 4 cm above (Fig. 2B) The echogenicity of the subcutaneous tissue in Figure 2A is slightly increased due to the greater fibrotic component. Once the patient discontinued using elastic bands, the lesions resolved completely within a few months, as reported in the literature in >70% of cases (Presta et al., 2016).

The diagnosis of LS is usually established on clinical grounds, but histopathological findings show mild perivascular inflammatory changes with partial or complete loss of fat, partially replaced by collagen. The differential diagnosis of LS includes local-

Fig. 1. (A) Bilateral, linear depressions on the anterior aspect of the thighs (arrows). (B) One of the most common exercises performed with the help of elastic bands.

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ized involutional atrophy characterized by an asymptomatic, well-demarcated, asymmetric, atrophic depression that often involves areas of antecedent intramuscular or intra-articular injections, as well as linear scleroderma characterized by single, unilateral linear streaks of cutaneous induration that may involve the dermis, subcutaneous tissue, muscle, and underlying bone (Peters and Winkelmann, 1986).

To the best of our knowledge, this is the first reported case of LS related to the use of elastic bands. With these devices gaining greater popularity due to COVID-19 lockdowns, we believe that this could be an emerging cause of LS in younger patients without a significant history of a workplace exposure, especially considering the decline of more classic causes of LS, such as tight hosiery and poor ergonomics in the workplace.

Even though conditions like LS may be considered uncommon in the current environment, dermatologists should always be wary of new emerging causes for old, well-established diseases.

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Conflicts of interest

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Study approval

The author(s) confirm that any aspect of the work covered in this manuscript that has involved human patients has been conducted with the ethical approval of all relevant bodies.

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