Bullous striae distensae in a young patient with cardiomyopathy

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Abstract

Striae distensae (SD), also known as stretch marks, are observable linear scars that appear where dermal damage has occurred as a result of prolonged stretching of the skin. The actual pathophysiology of SD is still up for debate because its origins are multifaceted. Generally, striae are benign lesions, but larger lesions may get traumatized and become ulcerated or rupture. In patients with edema and receiving systemic steroids, bullous SD could develop secondary to fluid buildup preferentially in striae. We report a case of a young patient with cardiomyopathy who received systemic steroids and developed bullous striae distensae.

Introduction

Striae distensae (SD) are linear scars that represent dermal damage. They affect people between the ages of 5 and 50, with females being twice as likely to be affected by them.[1] Striae are remarkably prevalent and frequently lead to cosmetic morbidity and psychological frustration, especially in women. It can be caused by physiological as well as pathological factors. Nevertheless, the pathogenesis is still not completely understood.[2]

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Case Report

An 18-year-old male known to have non-ischemic cardiomyopathy, who underwent an orthotopic heart transplant 1 month prior to the consultation, presented with 1-week history of asymptomatic clear linear blisters within preexisting white atrophic striae distansae. The patient has been receiving furosemide and systemic steroids for more than 3 months for his underlying cardiac condition. He developed similar bullous lesions over the dorsum of his feet bilaterally 2 weeks prior, which resolved with the possible effects of diuretics. On examination, he had generalized edema, and there were multiple edematous shiny plaques within striae distensae over the back, flanks and medial thighs, puncture of a lesion revealed clear fluid (Figure 1). Labs were unremarkable except for long-term borderline low levels of albumin. Patient was reassured and given explanation about the benign nature of bullous striae distansae. In addition, managing the underlying edema would be effective as fluids tend to accumulate within weak points of the skin such as striae distensae.

Discussion and Conclusions

Striae commonly appear in a range of physiological conditions, including pregnancy, a growth spurt during adolescence, or an abrupt change in the percentage of a particular body region, as in weightlifters, obese, or people who have lost a lot of weight.[3] It can also be observed in pathological conditions such as Cushing's syndrome,[4] genetic disorders like Marfan syndrome,[5] or as a side effect of medications like steroids and anti-retrovirals.[4-7]

The actual pathophysiology of SD is not well established. The extracellular matrix (ECM) proteins fibrillin, elastin, fibronectin, and collagen are involved in the altered dermal connective tissue framework, which is proposed to be the primary pathology underlying SD.[8,9] Initial SD lesions are smooth, elevated, and reddish to violaceous in color referred to as striae rubra (SR). When a lesion ages, it usually becomes irreversible and atrophies, turns pale, and develops a delicately wrinkled surface known as striae alba (SA). Generally, striae are benign lesions; nevertheless, larger lesions may get traumatized and become ulcerated or rupture.[1]

In patients with edema and receiving systemic steroids, bullous SD could develop secondary to fluid buildup preferentially in striae. Glucocorticoids cause decreased tensile strength by enhancing collagen breakup which could result in accumulation of edema fluids in striae distansae.[10] So, we think the combination of systemic steroids and generalized edema caused the findings in our patient. There have been relatively few reports of fluid-filled or bullous SD.[10-22] It was found that most patients in the reported cases of bullous SD had edema due to low levels of albumin and

Figure 1. The patient had generalized edema, and there were multiple edematous shiny plaques within striae distensae.

were on long-term oral steroids, as seen in our patient.[19,20]

Although bullous SD appear to be benign, health care providers might get worried by their troubling appearance owing to them being unfamiliar with this unusual phenomenon. By being aware of this unique clinical condition, unneeded and excessive therapeutic or investigative interventions can be avoided.

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