

Correspondence

Reactive hypertrophy of the nipples in a patient with atopic dermatitis

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We report a case of nipple eczema, leading to hypertrophy of the nipples.

A 14-year-old girl presented to our department with a 2-year history of gradual enlargement of both nipples. The patient had AD, which had been present since childhood.

On physical examination, the nipples were found to be enlarged, forming pedunculated nodular prominences (Fig. 1). The borders between the nipples and areolae were not discernable, and the surface of the nodules was partly eczematous. The patient admitted to perpetual scratching of the lesions to reduce the pruritus caused by her AD. There was lichenification in the flexural areas. The eczema and pruritus had been temporarily responsive to topical steroid; however, the size of the nodules was not reduced.

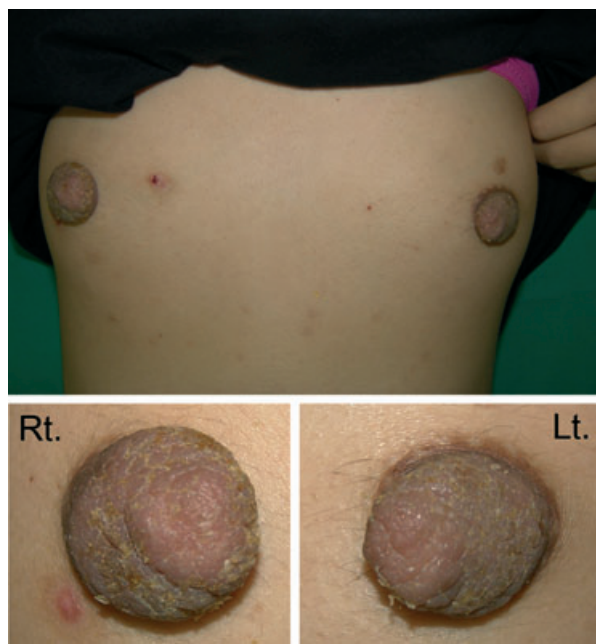


Figure 1 Bilateral enlargement of the nipples, forming pedunculated nodular prominences.

A biopsy specimen from the right nipple was submitted for histological examination (Fig. 2). Epidermis showed abscess formation with spongiosis, and the papillary dermis had perivascular infiltration of lymphocytes, plasma cells and eosinophils (Fig. 2a). These findings were consistent with nipple eczema. Interestingly, the reticular dermis showed smooth-muscle hyperplasia, explaining the nodular prominence of the nipple. The increased muscle bundles were thick enough to produce a mass effect, but were mostly confined to the reticular dermis and rarely invaded the papillary dermis. Multiple discrete smooth-muscle bundles were variably orientated without cytological atypia or necrosis. They found positive reactivity with smooth muscle-actin (SMA), desmin and Masson trichrome.

Laboratory investigations showed increased serum levels of total IgE (111 KU/L; normal < 120 KU/L).

Lichenification was the first candidate in the differential diagnosis, but as the histological examination revealed not only spongiotic dermatitis, but also smooth-muscle hypertrophy, this was discounted. On the basis of the clinical and histological findings, leiomyoma of the nipple was also considered. Leiomyoma is a rare, benign neoplasm of the nipple, with 38 cases reported in the literature.¹ Clinically, it usually presents as a red-brown solitary nodular tumour.² Histologically, it is poorly demarcated and composed of interlacing bundles of smooth-muscle fibres, with which varying amounts of collagen bundles are intermingled. In our patient, leiomyoma was excluded because the lesions were the enlarged nipples themselves, and not nodular tumours arising from the nipples, and in addition, the bilateral eczematous lesions had occurred simultaneously, implying that these lesions were reactive hypertrophy, rather than tumours.

Nipple eczema is the commonest presentation of atopic dermatitis (AD) of the breast, and has been regarded as a minor criterion in the diagnosis of AD.^{3,4} The clinical appearance of nipple eczema may include erythema, erosions, excoriations or lichenification, and these features are mainly eczematous changes of the epidermis and dermis. This case indicates that not only nipple eczema, but also reactive hypertrophy of the nipples can accompany AD.

To our knowledge, smooth-muscle hypertrophy of the nipples in a patient with AD has rarely been reported. We suspect that our patient developed reactive hypertrophy of the nipples secondary to severe nipple eczema and

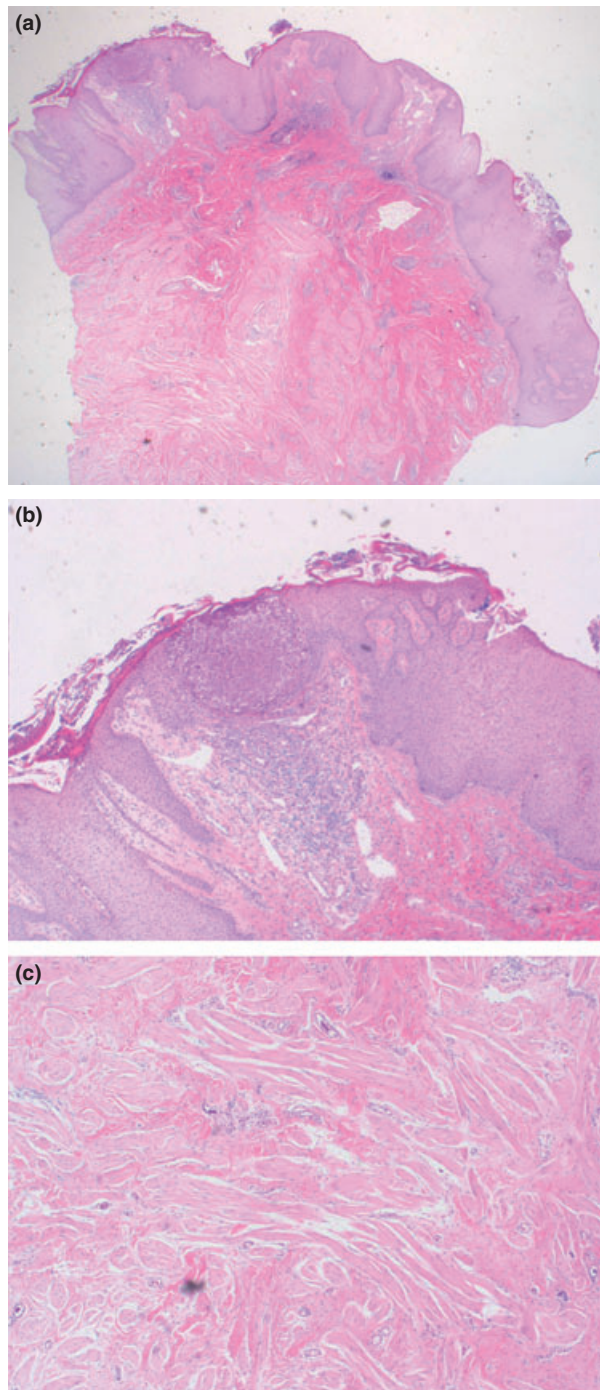


Figure 2 (a) Increased muscle bundles in the reticular dermis (b) Abscess formation with spongiosis in the epidermis and perivascular infiltration of lymphocytes, plasma cells and eosinophils in the papillary dermis. (c) Smooth-muscle fibres in the reticular dermis with no evidence of cytological atypia or necrosis. Haematoxylin and eosin, original magnification (a) $\times 40$; (b,c) $\times 100$.

repetitive stimulation of the lesions by scratching. Chegini⁵ suggested that cellular insult caused by various injuries often results in the infiltration of inflammatory and immune-related cells, increased levels of cytokines and chemoattractant factors, and activation of smooth-muscle cells and fibroblasts. Inflammatory cascades in AD and chronic scratching and rubbing could act as cellular insults, inducing reactions associated with smooth-muscle hypertrophy.

This case implies that the smooth muscles of the nipples themselves can be induced to hypertrophy by repetitive stimulation, and that nipple eczema in a patient with AD can advance to reactive nipple hypertrophy by repetitive scratching.

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