

## Demodicidosis of the Nipple

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Sir,

Demodex mites are common ectoparasites of human skin (1). Two species, *Demodex folliculorum* and the smaller *D. brevis*, inhabit the human pilosebaceous unit and are found in individuals of all ages except neonates. They inhabit almost every area of human skin but show a predilection for the face, especially the nose and nasolabial folds. Cases in which demodicidosis developed on other sites than the face were associated with the acquired immunodeficiency syndrome (AIDS) (2), diabetes mellitus, chronic liver disease (3), or mycosis fungoides (4). This is a report of an otherwise healthy patient affected with unilateral eczema-like demodicidosis of the nipple.

### CASE REPORT

A 53-year-old Caucasian man presented with pruritic skin lesions on the right nipple that had been present for 8 months. He had not used topical or systemic corticosteroids or other immunosuppressive drugs. Otherwise he was in good health. The personal and familial history of atopy was negative.

Clinical examination showed mild erythema with scaling on the right nipple. The remainder of the skin surface was normal. Histopathology of a skin biopsy revealed a dense perifollicular lymphocytic infiltrate (Fig. 1). Within the dilated infundibulum of the hair follicle, delimited by a sparse lymphocytic infiltrate, *D. folliculorum* mites were found. Neither bacteria nor fungi were observed with Giemsa and PAS stain.

A complete blood count with differential and a basic biochemical profile as well as CD4- and CD8-positive T lymphocytes and total serum immunoglobulin E level were within normal limits.

Topical treatment with 5% permethrin cream twice a day led to complete clearing of skin lesions after

3 weeks. At the end of treatment, no Demodex mites could be demonstrated by skin surface biopsy (cyanoacrylate technique) from the nipple. No recurrences have been observed in a 12-month follow-up.



Fig. 1. Demodex mites (arrows) in the infundibulum with folliculitis and perifolliculitis in a punch biopsy from the nipple (haematoxyline-eosin stain, original magnification  $\times 40$ ).

## DISCUSSION

Infestation with *Demodex* mites is usually asymptomatic, but occasionally may be associated with a variety of skin disorders including papulopustular scalp eruptions (5), pityriasis folliculorum (6), rosacea (7), spinulosis of the face (8), hyperpigmented patches (6), blepharitis (9), perioral dermatitis (10), or pustular folliculitis (11). Most of these disorders develop on the face and large numbers of *Demodex* mites can be demonstrated in the skin lesions. It has not been proven, however, that *Demodex* mites are the cause of any of these conditions.

Breckinridge (12) found *Demodex* mites in 186 of 1435 (13%) routine skin biopsies from all parts of the body. They were present in single sections of 7 of 32 nipples. Garven (13) found them in 10 of 13 nipples while examining multiple sections. He noted that some were associated with chronic inflammation around the sebaceous follicle and questioned whether they played a role in causing soreness of the nipple. By examining routine single sections of nipples from 50 mastectomy specimens, Fidler (14) found *Demodex* mites in 15 nipples. They were seen in hair follicles or sebaceous ducts, but were not present in nipple ducts. In addition, a few chronic inflammatory cells were adjacent to the mites in a few cases, but no striking pathological changes were seen in hair follicles or sebaceous glands.

The pathogenic mechanism by which *Demodex* mites may produce clinical manifestations is unknown. Immunohistochemical staining showed that helper/inducer T lymphocytes predominated in the dermal infiltrate, suggesting that a cell-mediated immune response may be implicated (15). There is evidence that *D. folliculorum* may also trigger humoral immune responses (16). It seems likely that under normal circumstances there is a control mechanism which limits the population of *Demodex* mites, but that both local and systemic factors may create an environment which encourages their proliferation.

A pathogenic role for the mites is supported by response of the dermatosis to topical therapy with permethrin. In our experience, this is an effective and well-tolerated antiparasitic agent for the treatment of demodicidosis.

In the authors' opinion there is some evidence that *Demodex* mites play a significant role in the pathogenesis of eczema-like eruption of the nipple. Demodicidosis should be included in the differential diagnosis of nipple eczema.

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