Morphea after Silicone Implants

Dear Editor,

Silicone is a hydrophobic polymer containing silicon. Silicon is an essential compound of soft tissue proteoglycans. Reports about morphea and other autoimmune connective tissue disorders in association with silicone implants have stimulated the discussion of a possible link between the two, such as immunological cross-reactivity of silicone and connective tissue components (1). A number of case reports suggested a possible link to adjuvant autoimmune syndrome (2), morphea of the breast (3-5), and systemic scleroderma (6-8), among others.

One study measured tissue silicon levels in women with silicone breast implants with and without symptoms or signs and compared these data with women who had either a saline breast implant or no augmentation at all. The authors detected higher levels of silicon in capsular tissue of patients with silicone implants, independent of the presence of any symptoms or signs (9,10). The conclusion was that there is no evidence of an association between silicone implants and autoimmune connective tissue disorders. Three other clinical trials investigating the role of silicone implants and induction of autoimmune connective tissue disorders also failed to find an association between the two (11-13).

We report the case of a 32-year-old female patient who developed morphea of the breasts after silicone implants for augmentation after risk-reducing mastectomy for Cowden syndrome. She presented with pronounced capsule fibrosis of the implants. With a delay of several years, an ill-defined slightly hyperpigmented area developed on the breasts and ventral chest (Figure 1). The lesion was analyzed by dermoscopy (Figure 2), which found mild erythema, reduced vessels, and white areas (ill-defined dull white globules, fibrotic beams).

A skin biopsy was taken. Histopathological analysis showed a normal epidermal layer, minor papillary edema, and some vascular ectasias in the papillary dermis and upper corium (Figure 3). There was mild perivascular inflammatory infiltrate of the deep dermal vascular plexus, composed of lymphocytes and monocytes with some plasma cells (Figure 4). Elastic fibers seemed unaffected (Figure 5).

The diagnosis of an early morphea of the edematous-inflammatory stage was established. Treatment with topical corticosteroids and UVB-311 nm irradiation was recommended.

Morphea of the breasts is an uncommon disorder. It may occur after radiotherapy of breast cancer, after

Figure 1. Morphea of the chest, capsule fibrosis, silicone implants.

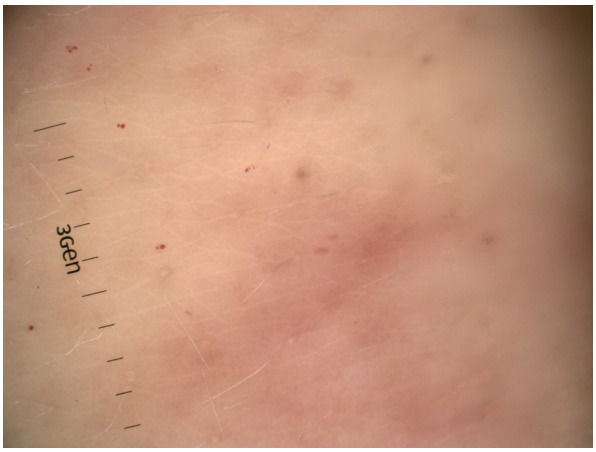

Figure 2. Dermoscopy of morphea with erythema, reduced vessel density, and white areas (×16).

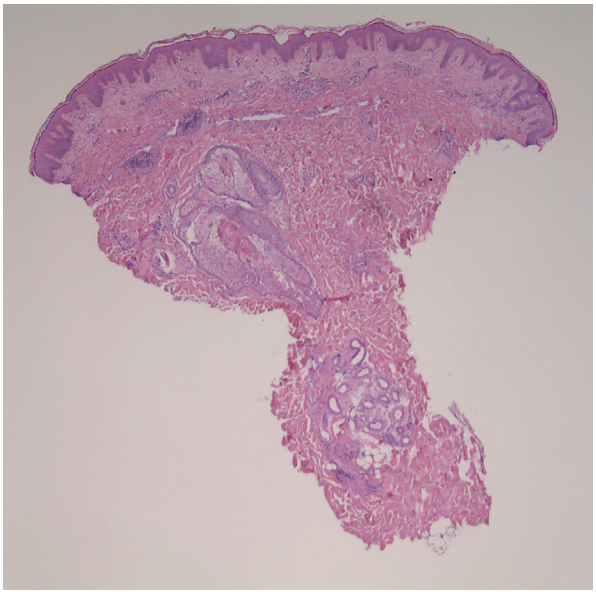

Figure 3. Histopathology of morphea lesion with minor papillary edema and some vascular ectasias in the papillary dermis and upper corium (hematoxylin-eosin, ×2).

silicone augmentation, or without any known cause (14-16). A meta-analysis found an increased risk for morphea/scleroderma, with a relative risk between 1.30 to 2.13 and an odds ratio for case control studies of 1.68 (17). The US FDA Breast Implant Approval Study evaluated almost 100,000 female patients with breast implants. An increased risk of Sjögren's syndrome, scleroderma, and rheumatoid arthritis was reported (18).

We could not find any reference of an association between capsular fibrosis and morphea of the breast, although both represent fibrotic disorders.

In conclusion, it seems possible that there is a link between morphea of the breast and chest as described herein and silicone breast implants, which is supported by epidemiological studies. However, a direct causal relationship is hard to demonstrate with a single case.

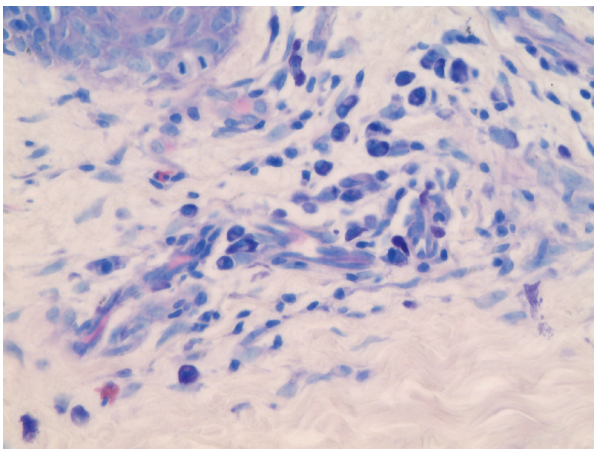

Figure 4. Perivascular inflammatory infiltrate with some plasma cells (Giemsa, ×40).

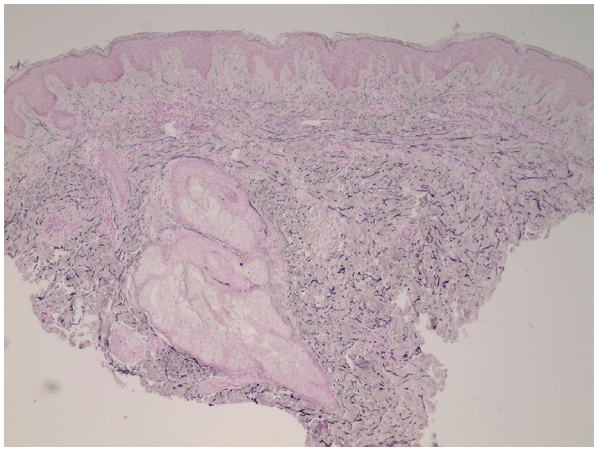

Figure 5. Elastic fibers seemed unaffected (Elastica, ×4).

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