

Superficial Morphea of the Lips and Gingiva

Morphea is a cutaneous disorder characterized by excessive collagen deposition. While in almost all cases the sclerosing process exclusively affects the skin, there are anecdotal cases in which associated mucosal involvement has been described. In 1999 McNiff *et al.* (1) described the first cases of superficial morphea, presenting as pigmented mucosal lesions with minimal cutaneous induration. Previously, it had been speculated that morphea might result from autoimmunity, infection, drugs, etc (2). Recently, it has been suggested that morphea might be preceded by trauma and radiation (3,4). Most of the patients with oral morphea described in the literature suffered from scar-like or indurated whitish lesions of the oral mucosa, unerupted teeth, root development defects, root atrophy, localized gingival recession, and alveolar bone resorption (5). Furthermore, other orodental abnormalities such as widening of the periodontal space, temporomandibular disorders, and limited mouth opening have been reported in patients with scleroderma. To our knowledge, there are around 25 cases of morphea associated with oral and dental manifestations reported in the literature (5). It is still a matter of debate which treatment option is the most efficient (6).

A 38-year-old female patient was referred to our Department due to the hypopigmented lesion extending from the lip to the base of the nose (Figure 1). Clinical examination revealed that the hypopigmented area also extended to the corresponding mucosal side of the lip and on the gingiva adjacent to tooth #22. The patient had a history of trauma (swinging blow) in that area 1.5 years ago. Three months before admittance to our Department she had tooth #22 extracted because of excessive mobility. The patient was concerned as the lesion slowly increased in size.

The patient suffered from occasional minor gastric discomfort but was otherwise healthy. She had no history of radiation, autoimmune diseases, Raynaud's phenomenon, etc. Serum testings did not reveal thy-

roid abnormalities or pernicious anemia. C-reactive protein, glucose levels, liver enzymes, creatinine, lactate dehydrogenase, serum potassium, sodium, calcium, and phosphates were within normal ranges. As she mentioned a tick bite last year, she was sent for a Borrelia antibodies test which revealed no abnormalities. Human immunodeficiency virus (HIV), hepatitis B, C, and syphilis serology were negative.

Histopathology of the mucosal lesion showed thickened, parakeratotic epithelium without significantly expressed papillomatosis together with intensely dense and hyalinized collagen in the underlying stroma as well as significant reduction of elastic fibers and their occasional spread into surrounding adipose tissue. Inflammatory infiltrate was quite sparse and with focally arranged cells, mostly consisting of lymphocytes. The finding was highly suggestive of localized scleroderma i.e. morphea. All antinuclear antibodies including anti-topoisomerase I antibodies were negative. Protein electrophoresis, immunoglobulins, and C3 as well as C4 were within normal ranges. A clinical immunologist concluded that the patient did not meet the criteria for the diagnosis of systemic sclerosis.

The patient was treated with zinc supplement (90 mg daily) together with 1% pimecrolimus ointment (Elidel[®], Valeant Pharmaceuticals, Montreal, Canada) over two months, but there was no improvement. Following that, topical asiaticoside ointment (Shanghai Modern Pharmaceuticals Co, Shanghai, China) and oral Salvia miltiorhiza (Tianjin Tasly Pharmaceutical Co, Tianjin, China) in total duration of nine months were used, again with no improvement. Subsequently, weekly intralesional steroid injections (methylprednisolone acetate, Depo Medrol[®], Pfizer Inc. NY, USA, 16 mg divided into four sites on the mucosal side of the lip), together with topical 0.05% bethametasone acetate ointment (Beloderm[®], Belupo, Koprivnica, Croatia) three times a day were introduced. The lesion fully resolved after eight weekly intralesional applications (Figure 2).



Figure 1. Finding on the upper lip at the initial presentation of the patient.



Figure 2. Intraoral finding at the initial presentation of the patient.

DISCUSSION

Upon admission the list of differential diagnosis affecting the skin and mucosa included scleroderma, lichen sclerosus, vitiligo, Lyme disease, graft-versus-host disease, morphea-type basal cell carcinoma, atrophoderma of Pasini and Pierini, verruciform xanthoma, eosinophilia-myalgia syndrome, mycosis fungoides, gadolinium induced changes, oral submucous fibrosis, leukoplakia, plaque type lichen, chronic candidiasis, sideropenic anemia, fibrous scar, white sponge nevus, etc (7). However, histopathology revealed the straightforward diagnosis of morphea in our patient.

Detailed medical history revealed a tick bite one year ago. Since manifestations of Lyme disease might look similar to these lesions, the patient was referred to the infectologist. No increase in *Borrelia burgdorferi* titers was noticed and she was negative for HIV, hepatitis B, C and syphilis (8).

Furthermore, our patient was occasionally taking proton pump inhibitors. Therefore, drugs were excluded as a possible cause of morphea.

As seen in other cases, morphea in our patient was preceded by trauma in that area (after a swinging blow). No widening of the periodontal ligament and no other oral signs of scleroderma were seen in our patient, such as limited mouth opening, xerostomia, temporomandibular joint disease, skeletal asymmetry, unerupted teeth, root development defects, root atrophy, localized gingival recession, and alveolar bone resorption (5,9).

There is a wide range of treatment options for cutaneous morphea, such as topical and systemic therapies as well as phototherapy, but randomized controlled trial evidence is still lacking (6). In our case

phototherapy was excluded due to the lesion location i.e. the face. On the other hand, treatment options for oral mucosal morphea are very scarce.

Brocard et al. (10) published a retrospective study on 17 patients with histologically confirmed localized scleroderma active for more than one year and whose treatment with a high potency dermocorticosteroid was a failure. The patients were then treated with 60 to 90 mg of zinc gluconate daily for three months. An efficacy of 53% was obtained (5 partial remissions and 4 complete remissions) with a mean dose of 83.3 mg/day. Two patients (11.8%) had gastric discomfort that did not require treatment discontinuation. Therefore, the dose of 90 mg zinc gluconate daily was introduced in our patient, but no improvement after two months was observed. Moreover, the patient reported worsening of her gastric discomfort. During the same time she also applied 1% pimecrolimus ointment on the affected area, again with no improvement.

We then started topical therapy suggested by Liu et al. (11) based on the application of topical asiaticoside ointment (Shanghai Modern Pharmaceuticals Co, Shanghai, China) and oral *Salvia miltiorhiza* (Tianjin Tasly Pharmaceutical Co, Tianjin, China). The authors reported this treatment to be beneficial in two patients after nine months. However, this treatment was not efficient in our patient.

Finally we started treatment with intralesional steroid injections. A case report of intralesional steroid injection and topical calcipotriene treatment was described by Hanson et al. (17) in a 17 year woman suffering from morphea on her left flank, however without success. This finding is in contrast to ours as

lesions seen in our patient subsided after eight weekly intralesional steroid injections.

As stated by other authors, evidence based therapy for oral mucosal morphea is almost entirely lacking and management of oral lesions is challenging. When there is only local involvement, i.e. morphea and there are no signs of systemic involvement (scleroderma), it seems that topical therapies are worth trying.

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