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SLOWLY ADVANCING SHADOW: UNVEILING PLAQUE MORPHEA AFTER 12 YEARS OF DIAGNOSTIC LATENCY

Dermatology

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ABSTRACT

Background: Morphea or localized scleroderma is a rare, autoimmune fibrosing disorder primarily affecting the skin and underlying tissues, characterized by sclerosis due to collagen deposition. **Case Presentation:** We report a case of a 27-year-old female presenting with a 12-year history of a gradually progressive hyperpigmented plaque over the back, confirmed histologically as plaque-type morphea. **Conclusion:** Early recognition of morphea is essential due to its potential for disfigurement and functional impairment. A multidisciplinary approach combining clinical, histological, and therapeutic strategies remains the cornerstone for effective management.

KEYWORDS

INTRODUCTION:

Morphea, or localized scleroderma, is an uncommon autoimmune connective tissue disorder characterized by inflammation and fibrosis of the skin and subcutaneous tissue without systemic involvement [1]. It manifests in distinct clinical subtypes including plaque-type, generalized, linear, bullous, and deep morphea [3]. Plaque-type is the most frequent, typically affecting the trunk and presenting as circumscribed areas of induration and pigmentation [1]. Histopathology plays a crucial role in diagnosis, especially in cases with atypical morphology or long-standing progression [4]. We present a histologically confirmed case of plaque-type morphea in a young female with a chronic hyper-pigmented lesion over the back.

Case Report:

A 27-year-old female presented to the Dermatology, Venereology, and Leprosy outpatient department with a longstanding complaint of a hyper-pigmented thickened lesion localized over the left side of her back. The lesion had first appeared approximately 12 years prior and had remained relatively static for many years, but she noted a gradual increase in both size and firmness over the past three years.

She denied any history of preceding trauma, systemic drug intake, or febrile illness. There were no associated symptoms suggestive of systemic involvement, such as photosensitivity, arthralgia, Raynaud's phenomenon, or other features of connective tissue disorders including systemic sclerosis [1].

On physical examination, a single well-demarcated plaque was observed over the left paravertebral region. The lesion was predominantly hyperpigmented with a notable central area of relative hypopigmentation. On palpation, the plaque was not indurated or bound down to the underlying tissue, with pinchable overlying atrophic skin. There were no similar lesions elsewhere on the body. Examination of the scalp, hair, nails, oral mucosa, and other mucocutaneous sites did not reveal any abnormalities, and systemic evaluation was unremarkable.

In view of the chronicity and evolution of the lesion, a skin biopsy was performed for diagnostic clarification. Histopathological analysis revealed focal flattening and loss of rete ridges in the epidermis. There was prominent collagen deposition in the dermis, extending deeply into the subcutaneous tissue, accompanied by a mild perivascular infiltrate composed predominantly of mononuclear cells [2]. No significant atrophy of adnexal structures or epidermis was identified. To confirm the nature of the dermal changes, Masson's trichrome staining was performed, which demonstrated increased collagen deposition within the dermis.

Taken together, the chronic clinical presentation, characteristic pigmentary changes, absence of systemic features, and histopathological evidence of dermal sclerosis with preserved adnexal structures led to a final diagnosis of plaque-type morphea.

DISCUSSION:

Morphea is a localized sclerosing disorder with autoimmune underpinnings, often triggered by trauma, infections, or genetic predisposition. Plaque-type morphea typically presents as oval-shaped hyper- or hypopigmented patches with gradual progression to ivory-white sclerotic plaques [3]. While early lesions may appear non-sclerotic or only pigmented, histology is essential in detecting early sclerosis, as demonstrated in this case.

The histopathological hallmark includes thickened, hyalinized collagen bundles, loss of adnexal structures, and a lymphocytic perivascular infiltrate. Masson's trichrome stain helps highlight the extent of dermal fibrosis [4].

Management varies with disease severity and progression. Topical therapies like high-potency corticosteroids, calcipotriol, and tacrolimus are effective for limited plaque-type disease. Intralesional steroids and systemic agents such as methotrexate, systemic corticosteroids, phototherapy (NB-UVB, PUVA), and imiquimod are reserved for refractory or extensive disease.

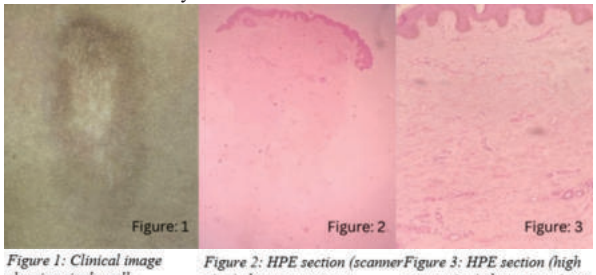

Figure 1: Clinical image showing single well-demarcated plaque with predominantly hyperpigmented with a notable central area of relative hypopigmentation

Figure 2: HPE section (scanner view) shows square-cut appearance, with loss of reteridges and moderate sclerosis of the dermis

Figure 3: HPE section (high power view) shows prominent collagen deposition in the dermis, extending deeply into the subcutaneous tissue, accompanied by a mild perivascular lymphocytic infiltrate.

This case highlights the importance of recognizing atypical or subtle morphoea lesions and utilizing histopathology to confirm diagnosis, even in the absence of overt sclerosis on clinical exam.

CONCLUSION:

This case underscores the clinical variability of plaque-type morphea and the diagnostic value of histopathology, especially in long-standing non-indurated lesions. Early diagnosis enables timely initiation of therapy, potentially preventing progression to deeper tissue involvement or cosmetic sequelae [5]

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