Acta Dermatovenerol Croat 2009;17(2);134-138 CASE REPORT

Hypertrophic Lupus Erythematosus: Case Report

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Received: October 20, 2008
Accepted: May 11, 2009

SUMMARY Discoid lupus erythematosus is the most common form of cutaneous lupus erythematosus. It is more common in women than in men, in individuals between 20 and 40 years of age. It is an inflammatory autoimmune disease in which genetically predisposed individuals are stimulated by hormonal and a variety of exogenous factors including UV radiation, stress, infections, and even temperature changes. Lesions are characterized by erythema, hyperkeratosis and atrophy. Typical sites are light-exposed areas, i.e. forehead, nose, cheeks, upper part of the back, upper chest, and dorsal aspects of the hands and feet. A case of lupus erythematosus hypertrophicus with very good and rapid treatment results with antimalarials and topical corticosteroid is presented.

KEY WORDS: discoid lupus erythematosus, clinical varieties, hypertrophic lupus erythematosus treatment

INTRODUCTION

Discoid lupus erythematosus (DLE) is the most common form of cutaneous manifestation of lupus erythematosus, also known as lupus erythematosus chronicus or chronic cutaneous lupus erythematosus (CCLE) (1). It is most common in individuals between 20 and 40 years of age (1,2), with a female-male ratio of approximately 2:1 to 4:1 (1). Its incidence is estimated at more than 1:200 in black women (1). In children, even if the skin lesions are typical for DLE, one should suspect systemic lupus erythematosus. To make a diagnosis, histopathologic examination, immunofluorescent examination and laboratory examination are needed. Mostly it is treated with topical corticosteroids and systemic antimalarial therapy. Prophylaxis (sun avoidance and sunscreens with high UVA and UVB protection factors) should be used religiously. Local mutilation and scarring alopecia can occur. Approximately 5% of patients with isolated localized DLE subsequently develop systemic lupus erythematosus (3).

Lupus erythematosus hypertrophicus, also referred to as hyperkeratotic or verrucosus DLE, is a rare variant of cutaneous lupus erythematosus in

Acta Dermatovenerol Croat
2009;17(2):134-138

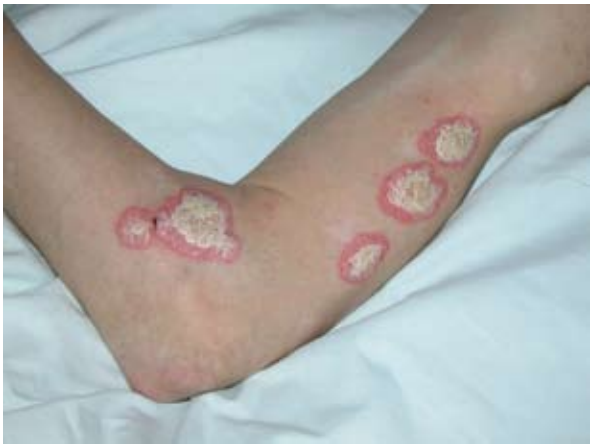

Figure1. Nummular erythematosus and greatly hyperkeratotic lesions on the left upper arm.

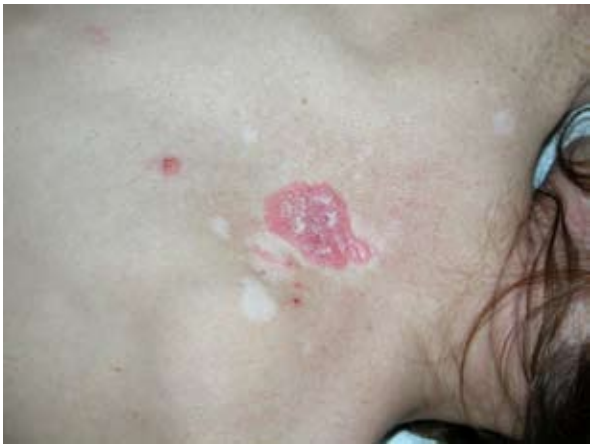

Figure2. Nummular erythematosus and hyperkeratotic lesions on the upper part of the back.

which the hyperkeratosis normally found in classic DLE is greatly exaggerated. The extensor aspects of the arms, the upper back, and the face are the areas most frequently affected (4).

CASE REPORT

A 45-year-old Caucasian female, a smoker, presented to our Department complaining of skin changes on the left upper arm, upper part of the back, dorsal aspects of the hands, and lower lip. The changes had been present for five years. Family history was not significant. Five years before, she had been diagnosed with hepatitis B infection. Skin changes manifested as erythematous and greatly hyperkeratotic lesions on the left upper arm, upper part of the back, dorsal aspects of the hands, and lower lip (Figs. 1, 2 and 3).

Lesional biopsy was performed. Histopathologic examination showed acanthosis and hyperkeratosis of the epidermis with plugged follicles, vacuolar degeneration of the basilar keratinocytes, more prominent and thickened basement membrane, perifollicular infiltrates of lymphocytes, and dilated blood vessels. The diagnosis of lupus erythematosus was confirmed. Immunofluorescent examination showed IgM deposition at the dermoepidermal junction. In addition, the patient was positive for ANA and negative for dsDNA and Sm antibodies. All test results were suggestive of the cutaneous form of lupus erythematosus.

She was treated with systemic antimalarials, chloroquine 2x1 tbl à 250 mg, for two weeks, tapered to a single tablet daily. Before the introduction of systemic treatment with antimalarials, the patient underwent ophthalmologic examination. She was also treated with topical high-potency corticosteroid ointment with occlusive dressing. As a prophylaxis she was recommended sunscreens with high UVA and UVB protection factors. The results of treatment were rapid and very successful.

DISCUSSION

The cause of DLE is not fully understood. It is thought to be an immune and inflammatory mediated disease in which genetically predisposed individuals are stimulated by hormonal and a variety of exogenous factors including UV radiation, stress, infections, and even temperature changes (1). It is often associated with HLA-B8 and HLA-DR3 haplotypes (4). These exogenous forces lead to epidermal cell death and the exposure of normally intracellular antigens, which than trigger an autoimmune response characterized in the laboratory by the presence of ANA. Our patient was also a long time smoker, and it is suggested in some

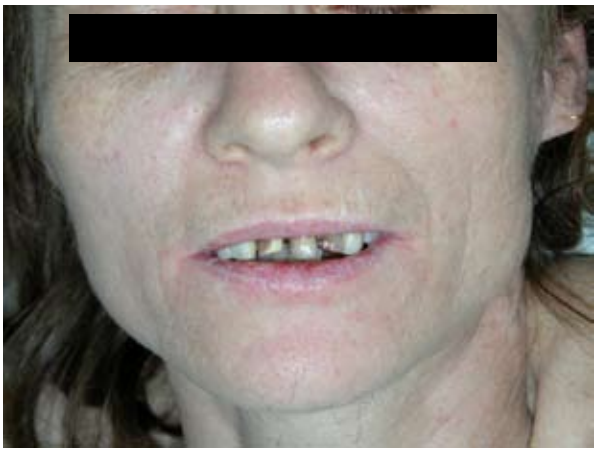

Figure3. Erythematosus and hyperkeratotic lesion on the lower lip.

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Table 1. Düsseldorf classification of cutaneous lupus erythematosus 2003 (3)

Acute cutaneous lupus erythematosus (ACLE)
Subacute cutaneous lupus erythematosus (SCLE)
Chronic cutaneous lupus erythematosus (CCLE)
Discoid lupus erythematosus (DLE)
Hypertrophic/verrucosus variant
Teleangiectoid variant
Lupus erythematosus profundus (LEP)
Chilblain lupus erythematosus (CHLE)
Intermittent cutaneous lupus erythematosus (ICLE)
Lupus erythematosus tumidus (LET)
Bullous lesions in lupus erythematosus (BLE)
LE – specific bullous skin lesions
LE – nonspecific bullous skin lesions
Primarily bullous skin disorders associated with LE

studies that smokers have an increased frequency of DLE (2,5).

The clinical expression of skin involvement in patients with lupus erythematosus shows a great variation, therefore, it has been difficult to issue the classification of cutaneous lupus erythematosus (Table 1) which is currently used (3). The lesions in our patient were consistent with hypertrophic lupus erythematosus.

The predilection sites of cutaneous lupus erythematosus are light-exposed areas, i.e. the forehead, nose, cheeks, upper part of the back, upper chest, and dorsal aspects of the hands and feet (1,2,4,6). Other sites include the eyelids, the ears including the ear canal where sunlight normally does not reach, and the scalp (1). Our patient presented with DLE lesions on the left upper arm, upper part of the back, and dorsal aspects of the hands and lower lip, which are typical sites.

Discoid lupus erythematosus is characterized by inflammatory plaques with scaling, follicular plugging, atrophic scarring, central hypopigmentation, and central hyperpigmentation (3). These lesions can be quite destructive leading to destruction of the nose, ears, cheeks, and scarring alopecia on the scalp (1,4).

Histologically, the epidermis and dermis are affected in DLE. The characteristic microscopic features are hyperkeratosis with follicular plugging, thinning and flattening of the epithelium, and hydropic degeneration of the basal layer (liquefaction degeneration). In addition, there are scattered apoptotic keratinocytes (Civatte bodies) in the basal layer or in the epithelium. Particularly in older lesions, thickening of the basement membrane becomes obvious in the periodic acid-Schiff stain. In the dermis, there is a lichenoid or patchy lymphocytic infiltrate with accentuation of the pilosebaceous follicles. There is interstitial mucin deposition and edema, and usually no eosinophils and neutrophils are present (3). Hypertrophic lesions as in our patient show acanthosis and hyperkeratosis of the epidermis.

Direct immunofluorescent examination of the affected skin shows deposition of IgG and C_3, and to a lesser extent of IgM, IgA and C1 in a diffuse irregular band at the dermoepidermal junction (1,4). Our patient had IgM deposition at the dermoepidermal junction. About 25% of DLE patients have positive ANA, but dsDNA and Sm antibodies suggest systemic disease (1).

Differential diagnosis includes systemic lupus erythematosus, lupus vulgaris, polymorphic light eruption, rosacea, seborrheic dermatitis, psoriasis, tinea faciei and corporis, actinic keratoses and sarcoidosis (1,4).

Treatment includes prophylaxis, and topical, surgical and systemic therapy. Sun avoidance and sunscreens with high UVA and UVB protection factors must be used religiously (1,4).

Short-term high-potency topical corticosteroids and intralesional corticosteroids are usually effective for early lesions before scarring has developed (1,4). Cryotherapy is effective especially for hyperkeratotic lesions (1,4).

Several other topical agents might be of use in individual patients with cutaneous lupus erythematosus. Retinoids, specifically tretinoin, might be effective and have been primarily used in patients with DLE and hypertrophic lupus erythematosus. Tazarotene, a topical retinoid, might also be used. Topical application of calcipotriene, a topical vitamin D derivative, may be tried (3). Some recent studies suggest the treatment with topical pimecrolimus and tacrolimus to be effective, but large controlled studies are needed for further evaluation (7-11). Finally, because it is known that systemically administered interferon is effective for CLE, it might be helpful to apply imiquimod to individual lesions (3).

When the existing lesions are not controlled with topical agents or intralesional corticosteroids, systemic therapy is often indicated. The standard systemic therapy includes antimalarials, usually chloroquine 250 mg daily. The usual initial dose is 250 mg twice daily for 10-14 days, tapered to a single dose daily (1,4). The major concern with antimalarials is retinal toxicity, so ophthalmologic

examination is necessary. One should wait for at least 3 months before deciding if the antimalarials are not helping. Several authors have shown that patients with DLE who smoke are less responsive to antimalarial treatment (2,12,13).

In difficult cases, multiple other approaches have been advocated for the treatment of cutaneous lupus erythematosus. Dapson may be useful in bullous lupus erythematosus and in oral ulcerations. Auranofin, an oral form of gold, has been used for cutaneous lupus erythematosus, and the results were encouraging (3). Also, low-dose thalidomide is an effective treatment option for DLE in cases resistant to other treatments, especially for mucosal ulcers and scalp involvement (1,14,15). Oral retinoids, isotretinoin and acitretin, are helpful in patients with hypertrophic lesions or those with lesions on the palms or soles. Several cytotoxic agents, azathioprine, methotrexate and mycophenolate mofetil, have also been reported to be beneficial for the control of cutaneous lupus erythematosus lesions. High-dose intravenous globulin and cytokine therapy with interferon-α have been used successfully, but long-term remission is rarely achieved. In contrast, chimeric CD4 monoclonal antibody infusions showed long-lasting improvement (3).

Ointments are more effective than creams for more hypertrophic and hyperkeratotic lesions as in our patient. Occlusive therapy with corticosteroids with plastic wrap can potentiate the beneficial effects of topical steroids.

Our patient showed a very good and rapid therapeutic result after one month of treatment with synthetic antimalarials and occlusive therapy with topical corticosteroids.

Each patient with newly a diagnosed DLE should be evaluated for the signs of systemic lupus erythematosus. Chronic discoid lesions may be an initial manifestation of systemic lupus erythematosus in approximately 10% of patients (3). Discoid lupus erythematosus should also be viewed as a precancerous condition because squamous cell carcinoma may develop in chronic lesions of DLE (1,16). Sometimes mutilation can occur, typically seen on the nose and ears, and also scarring alopecia that is permanent. Approximately 5% of patients with isolated localized DLE subsequently develop systemic lupus erythematosus (3).

CONCLUSION

Discoid lupus erythematosus is a chronic inflammatory autoimmune cutaneous disease. It affects genetically predisposed individuals stimulated by a variety of factors, UV radiation being the most important one. Remission can be successfully achieved by using local and intralesional corticosteroids and systemic antimalarial treatment. Calcipotriene and retinoids may be effective in some patients. Recently, local immunomodulators and systemic thalidomide therapy have been shown to be very effective. Local mutilation and scarring alopecia can occur. In approximately 5% of patients the disease evolves to a systemic form.

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