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Case Report

Clinical efficacy of chloroquine diphosphate in the treatment of discoid lupus erythematosus

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Abstract Discoid lupus erythematosus (DLE) is the most common clinical type of chronic cutaneous Lupus erythematosus (CLE). In the absence of a timely diagnosis and treatment, it may cause scarring and skin atrophy. The aim of the treatment is a fast and efficient reduction of the inflammatory process. We present a case of a DLE patient who was successfully treated with chloroquine diphosphate (CD). A 25-year-old woman presented with ruby-red plaques over the face, forehead, nose, cheeks, chin that merged into a butterfly-shaped rash around the nose and zygomatic arches. Treatment with CD (250 mg twice a day for two months) resulted rapidly effective with persistent efficacy and led to the almost complete clearance of cutaneous lesions. However, the treatment was discontinued due to visual disturbances.

Key words
Chloroquine diphosphate, discoid lupus erythematosus, lupus erythematosus, cutaneous lupus erythematosus, cutaneous lupus.

Introduction

Lupus erythematosus (LE) is an autoimmune inflammatory disease that can be systemic (SLE) or cutaneous (CLE). DLE, LE, tumidus, and lupus panniculitis are types of chronic CLE forms.[1]

It is necessary to consider not only classic forms of the disease but also the possibility of paraneoplastic syndromes.[2] DLE can mimic other diseases (for example, psoriasis, rosacea, tinea) and it can delay the required treatment. Long-standing lesions can lead to irreversible changes (scarring) of the skin due to treatment delay.[3] Therefore, it is so important to provide effective treatment promptly.

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Case report

A 25-year-old female presented with multiple face lesions that appeared one year ago.

On physical examination were found ruby-red plaques (size 0,5x3,0 cm) over the face, forehead, nose, cheeks, chin, which merged into large plaques with flattened central pink atrophy area with active peripheral inflammation and pigmentation.

Diagnosis of discoid lupus erythematosus was made based on anamnesis and histology. Histopathological analysis showed superficial and deep perivascular lymphocytic infiltrate.

The patient started treatment with Chloroquine diphosphate 250mg PO twice a day, Calcium gluconate 10%- 5ml intravenous injection once a day, Chloropyramine 20mg intramuscular injection once a day, B-complex vitamins intramuscular injection once a day, Loratadine

Figure 1 A butterfly-shaped rash around the nose and zygomatic arches.

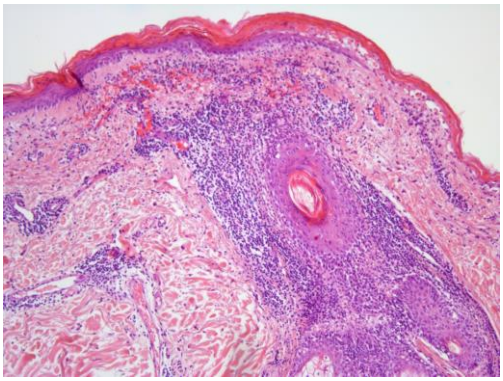

Figure 2 Superficial and deep perivascular lymphocytic infiltrates (hematoxylin and eosin stain, x100).

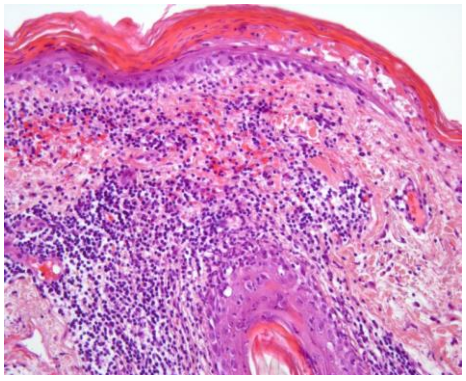

Figure 3 Parakeratosis, atrophy of the epidermis, vacuolation of the cytoplasm of the cells of the basal layer of the epidermis, and follicular orifice epithelium (hematoxylin and eosin stain, x200).

Figure 4 Atrophic scars and congestive hyperemia in place of inflammatory elements around the nose, zygomatic arches, cheeks, and chin.

10mg PO once a day, Hydrocortisone 1% cream two times per day.

Signs of regression were noted a week after the beginning of the treatment. A noticeable improvement was seen at the end of the first month of the treatment.

Cutaneous lesions cleared completely after a period of two months of treatment. At the end of the treatment course, the patient noticed a reduction of the visual acuity as well as the appearance of headaches. She was referred to an ophthalmologist who discontinued CD.

Discussion

DLE is the most common clinical type of chronic CLE. In the majority of cases, DLE patients do not have systemic compromise. Despite the rare involvement of internal organs in the pathological process, DLE should be extensively treated, in particular, to prevent the disfiguring scarring development.[4] The aim of the treatment is a fast and efficient reduction of the inflammatory process.

First-line therapeutic agents for DLE are topical corticosteroids. However, some of them cause side effects such as skin atrophy, telangiectasias, and rosacea-like dermatitis. The use of calcineurin inhibitors is not accompanied by the side-effects mentioned above but it is less effective. When hypertrophic lesions are identified, topical retinoids can be used. There are case reports of the use of UVA-1 treatment, laser, and cryotherapy which can produce Koebnerization and lupus flares.[5]

The first line of systemic CLE treatment is antimalarial drugs.[6] In cases where topical agents are ineffective, systemic agents are often used as a long-term option. The therapeutic effect usually occurs within 6 weeks.

Nevertheless, only two randomized double-blind studies examining the efficacy of antimalarial drugs in the treatment of DLE and SLE with skin lesions have been carried out so far; T. Ruzicka et al. in their study showed that both hydroxychloroquine and acitretin provide effective treatment in DLE patients (50% and 46% respectively).[7] According to E.L. Bezerra et al., there were no big differences between chloroquine and clofazimine in clinical efficacy in the treatment of SLE with skin lesions (75% and 82,4% respectively).[8]

In their study, S.Wahie et al.[6] noted that 60% of patients clinically responded to hydroxychloroquine. In four percent of patients, the treatment was withdrawn because of the occurrence of the side effects. Twenty-four percent of patients showed side effects (such as gastrointestinal tract disorders, rash, vision impairment). This research represents the largest and most extensive study of antimalarials efficacy in cases of DLE.

To summarizing, we confirm the efficacy of antimalarials in DLE treatment, which frequently causes side effects. It is evident the paucity of more effective and safer therapy.

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References

1. Kuhn A., Aberer E., Bata-Csörgő Z. et al. S2k guideline for treatment of cutaneous lupus erythematosus - guided by the European Dermatology Forum (EDF) in cooperation with the European Academy of Dermatology and Venereology (EADV). J. Eur. Acad. Dermatol. Venereol. 2017; 31(3):389-404.
2. Gantzer A., Regnier S., Cosnes A. et al. Lupus cutané subaigu et cancer: deux cas et revue de la littérature [Subacute cutaneous lupus erythematosus and cancer: two cases and literature review]. Ann Dermatol Venereol. 2011;138(5):409-417.
3. Hong, J., & Cordoro, K. M. (2011). Discoid Lupus Erythematosus in a Teenager. The Journal of Pediatrics, 159(2), 350.
4. Thirs B.H. Discoid lupus erythematosus. In:Treatment of skin disease/ Comprehensive therapeutic strategies /Ed. M.G. Lebwohl, W.R. Heymann. J Berth-Jones, IH Coulson-5 ed-Elsevier-New York-p.734-741.
5. Kim A, Chong BF. Photosensitivity in cutaneous lupus erythematosus. Photodermatol Photoimmunol Photomed. 2013;29(1):4-11.
6. Wahie S., Goodfield M.J.D., Carmichael A.J. et al. Response to hydroxychloroquine in patients with discoid lupus erythematosus. Br.J.Dermatol. 2010;163(1):9.
7. Ruzicka T., Sommerburg C., Goerz G., Kind P., Mensing H. Treatment of cutaneous lupus erythematosus with acitretin and hydroxychloroquine. Br J Dermatol. 1992;127(5):513-518.
8. Bezerra E.L., Vilar M.J., da Trindade Neto P.B., Sato E.I. Double-blind, randomized, controlled clinical trial of clofazimine compared with chloroquine in patients with systemic lupus erythematosus. Arthritis Rheum. 2005;52(10):3073-3078.