

Chronic Discoid Lupus: Not Fighting for “A Place in the Sun”

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Abstract

Chronic Discoid Lupus (CDL) is the most common manifestation of cutaneous lupus erythematosus, which mainly affects the skin. It has multiple modifiable risk factors, including occupational ones, which can be preventable and/or recognized early.

A 42-year-old Caucasian male who has been working in a quarry since he was 20 presented with oval lesions, dispersed in photo exposed regions, measuring about one centimeter in diameter and associated with pruritus. On physical examination, multiple hyperpigmented spots coalesced in groups. Atrophic and linear scars were also visible. After performing a skin biopsy, histopathology confirmed the diagnostic hypothesis of chronic discoid lupus.

The impact of this patient's professional activity, under the conditions in which it is performed, on the symptomatologic expression of chronic cutaneous lupus is undeniable. Thus, due to the privileged position of the Occupational Physician, the purpose of the intervention must be the promotion of protective measures aimed at the pathology in question.

Keywords: Chronic discoid lupus; Photoexposure; Radiation; Occupational Health

Introduction

Chronic discoid lupus (CDL), a variant of chronic cutaneous lupus erythematosus, is a disease characterized by erythematous and scaly plaques located in photoexposed areas, such as the face and neck [1]. These lesions progress with central hypopigmentation, peripheral hyperpigmentation and tissue atrophy [2].

This is the most common manifestation of cutaneous lupus erythematosus, which encompasses a spectrum of autoimmune diseases that primarily affect the skin; however, between 5% and 25% of patients develop systemic lupus erythematosus [3]. CDL primarily affects non-Caucasians and women of child-bearing age [4].

Although the cause is idiopathic, multiple risk factors seem to be associated with it. There is a genetic predisposition, with the involvement of multiple genes, as well as a strong contribution from environmental factors. Most patients are sensitive to ultraviolet radiation and exposure to it can cause an exacerbation of the symptoms, including a systemic one, if this component coexists – although the mechanisms for the latter are not fully known [3]. Likewise, it is believed that sex hormones play an important role in various autoimmune pathologies with a higher prevalence in females.

Finally, smoking is also associated not only with more severe conditions, but also with a worse therapeutic response [5-7].

The diagnosis is based on clinical suspicion and confirmed by histopathology, typically showing perivascular and peri-adnex-

al lymphocytic infiltrate with vacuolar degeneration of basal cells. As the lesions progress, hyperkeratosis with follicular plugging, epidermal atrophy and basement membrane thickening appears [1].

In the field of Occupational Health, the assessment of individual and occupational risk factors, combined with the promotion of workers' health and the strategic implementation of prevention measures, are taken as a priority [8].

Thus, pathologies such as CDL, due to its multifactorial nature and the presence of modifiable risk factors – which include occupational ones –, can be avoided and/or recognized early by the Occupational Doctor, even in the most atypical clinical presentations, with rapid referral to Dermatology. Reinforcement of general care such as avoiding the sun, avoiding photosensitizing drugs and regular application of sunscreen are factors of particular importance in the prognosis of this disease, especially in sectors of professional activity that are carried out outdoors.

In this sense, the goal of this paper is to describe a case of CDL in a patient with an occupational history of sun exposure and to sensitize health professionals to surveillance and prevention.

Case Report

In this case, we present a 42-year-old Caucasian male individual who has been working in a quarry since he was 20 years old, where he has performed various tasks, including construction of pavements on public roads. At the time he was allocated to

the producing sector, namely cutting procedures.

He was referred by the Attending Physician for a consultation in Dermatology due to oval pruritic lesions measuring approximately one centimeter in diameter, scattered throughout the left cervical region and anterior aspect of the thorax. Initially, they appeared to have an erythematous halo which evolved with hyperpigmentation. He also reported that the onset of the injuries occurred about half a year before this appointment.

On examination during the Dermatology consultation, multiple grouped hyperpigmented spots were observed, with atrophic, linear and central scars located in the neckline, neck, ears and upper interscapular region (**Figures 1, 2**).

Based on the description, the diagnostic hypothesis of chronic discoid lupus, or lichen planus pigmentosus, was suggested. A biopsy of a lesion in the ear lobe is performed, showing skin with “hyperkeratosis and follicular plugging, atrophic epidermis with basal vacuolar degeneration and the presence of apoptotic bodies. An intense lymphocytic inflammatory infiltrate was identified in the perivascular and periadnexal location, with lymphocyte exocytosis”, compatible with chronic discoid lupus. The patient started treatment with high potency topical corticotherapy and daily photoprotection.



Figure 1: Lesions in the neckline area in a 42-year-old individual.



Figure 2: Lesions in the retroauricular region in a 42-year-old individual.

Discussion

Work in civil construction is considered highly dangerous. Due to the characteristics of this type of work, workers are exposed to various risks, such as: chemical risk (dust and particles), mechanical risk (falling objects, noise, vibration), ergonomic risk (inappropriate postures due to lifting heavy loads), psychosocial risk (the market is increasingly more demanding both in

terms of quality and speed of production) and environmental risk (working outdoors exposes the worker to the physical risks of exposure to heat and cold) [9].

The association between occupational sun exposure and the appearance of non-melanocytic skin cancer has been extensively proven, although the impact on photosensitive pathologies still needs further investigation [10].

Photosensitivity is responsible not only for exacerbations, but also for the induction of lupus erythematosus. In this particular case, the impact that this patient’s professional activity, under the conditions in which it is carried out, has on the symptomatological expression of chronic cutaneous lupus is undeniable. In addition, the induction of skin lesions may have a latency period of some weeks, making this relationship not intuitive for patients [11, 12]. Thus, it is essential to reinforce the introduction of photoprotective measures such as the application of sunscreen, avoiding sun exposure between 10 a.m. and 4 p.m., wearing clothing that covers the largest possible area of the integument (including a hat), or supplementation with Vitamin D3 (cholecalciferol) [14]. Despite the proven benefit, a large portion of patients with CDL do not practice adequate protection measures [15].

Conclusion

Due to the privileged position of the Occupational Doctor in relation to the assessment and management of professional risks, their intervention must seek to promote protective measures aimed at the pathology in question, such as those mentioned above, or even an adaptation of the work post. With this in mind, it is important to fully understand the history of the patient, which implies questioning him about his daily tasks during a workday, paying special attention to the different risks to which he is exposed and the protective measures taken, in order to (in)form them in the best possible way.

Author Contributions

Joana F Peixoto: Concept and Design of study, Acquisition of data, drafting article, revising article, Guarantor Authot
Bárbara Oliveira e Silva: Revising article

Olga Pereira: Concept of study, Acquisition of data

Sílvia Oliveira: Revising article, final approval

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