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IMPACT OF ATOPIC DERMATITIS: REPERCUSSION ON ADULT QUALITY OF LIFE

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Abstract: Atopic Dermatitis (AD), also called Atopic Eczema, is a skin disease characterized by skin inflammation. It is a genetic, chronic, non-contagious disease that presents intense itching and thickening of the skin. It is a dermatological condition related to an inflammatory process of the skin with periods of calm and exacerbated crises. It is known that the diagnosis is exclusively clinical. In adults, even with a lower incidence compared to children, the manifestations do not fit the usual criteria for the disease, making early diagnosis difficult. The diagnostic approach and effective treatment of this pathology is necessary in order to minimize the damage related to the aesthetic conditions by the eczematous and pruritic skin manifestations that interfere with the quality of life of the adult patient, when the relationship with the psychological damage is established, directly or indirectly, indirectly in the professional, social and family area.

Keywords: Atopic Dermatitis. Dermatology. Atopic Dermatitis in Adults. Itchy Disease. Hypersensitivity.

INTRODUCTION

Since antiquity, descriptions of atopic dermatitis and reports of its relationship with personal, family and environmental factors have been discovered. In the literature of Hippocrates, between the 4th and 5th centuries BC, pruritus is mentioned, which is one of the most important diagnostic signs of atopic dermatitis. In the fifth book of the "Hippocratic Epidemic", a patient with a skin disease can be diagnosed with atopic dermatitis: "In Athens, a man was afflicted with an itching that affected his whole body (...). The affection was quite intense, and the skin was thickened all over the body (...). He lived on the island of Melos, where the hot baths relieved his itching and thickening of his skin. (...)".¹

The text proves the features of atopic dermatitis, except for itching, the skin is usually thickened, and a warm bath is used to relieve itching. He also mentioned that, in the Hippocratic concept, the cure of dermatoses can lead to the death of the patient. The authors of the "Old World" generally believe that the skin is an organ that "suppresses the humors", which is an important mechanism for the cure of many diseases. Hence, the idea that skin disorders must not be treated. This is the time perspective on atopic dermatitis, through which the "addicted lymph" that affects patients with skin conditions can be eliminated. Skin diseases were a necessary sin at the time and must not be treated. The idea of the skin as a way to eliminate emotions lasted for a long time, until the end of the 19th century, in the unconscious of many contemporaries, it was still influenced by Hippocratic Thought II.^{1,2,3}

Currently, it is known that the prevalence of atopic dermatitis (AD) in adults is 1% to 3%. It is a chronic inflammatory skin disease of multifactorial etiology, characterized by intense itching and dry skin. The lesions have a typical shape and distribution and mainly affect children with a personal or family history of atopic disease. This is recurrent itchy eczema that usually starts in the first few years of life.⁴

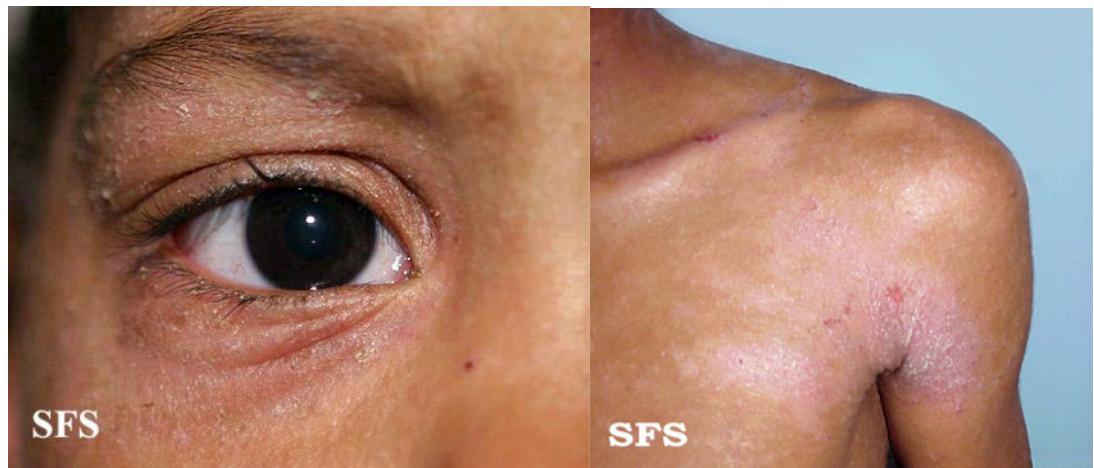
Adult-onset AD was not defined until recently, and there is still a lack of familiarity with this condition and confusion over appropriate terminology. AD may first appear in childhood or de novo in adults and is characterized by significant clinical heterogeneity. The disease is often different from the classic pattern of flexion dermatitis (bend of elbows and knees, neck, wrists). Adults have specific manifestations, such as head and neck dermatitis, chronic hand eczema, lichenified lesions, and pruritus.⁵

Figures 1 and 2:



Source: Atlas Dermatology [homepage da internet] Disponível em: <http://www.atlasdermatologico.com.br>

Figures 3 and 4:



Source: Atlas Dermatology [homepage da internet] Disponível em: <http://www.atlasdermatologico.com.br>

Although the diagnosis is clinical, adult-onset AD often does not meet the traditional diagnostic criteria for the disease, which were developed for children. Therefore, AD is usually a diagnosis of exclusion, especially in new cases. Often, additional diagnostic tests, such as skin tests, skin biopsy, patch tests, or blood tests, are needed to rule out other diseases or other types of eczema that

accompany AD.⁵

The pathophysiology of atopic dermatitis is complex, involving barrier dysfunction (“immunology and microbiology”), changes in cell-mediated immune response, IgE-mediated hypersensitivity reactions and environmental factors (reference) and other factors. The imbalance of Th2 to Th1 cytokines seen in atopic dermatitis can cause changes in

cell-mediated immune responses and promote IgE-mediated hypersensitivity, both of which appear to play a role in the development of atopic dermatitis.^{1,8}

Barrier dysfunction is innate (particularly in keratinocytes and Langerhans cells), with lymphocyte activation for Th2 shift (type 2 helper lymphocytes). In the acute phase, antigens activate Langerhans cells (antigen-presenting cells), with consequent stimulation of Th2 lymphocytes, with production of IL-4, IL-5 (promotes eosinophil migration) and IL-13 (inducing cell growth). These interleukins induce B lymphocytes to produce IgE and also to express vascular adhesion molecules, such as VCAM-1, responsible for eosinophil infiltration and decreased cytokine production by Th1 cells. In the chronic phase, there is interaction between Langerhans cells and macrophages, with the release of IL-1, which stimulates Th2 lymphocytes to produce more IL-4, IL-13, IL-5 and histamine-releasing factor.⁶

In addition, the deprivation of the function of filaggrin, a protein that is extremely necessary for the formation of the stratum corneum, which constitutes the first protective barrier of the skin, prevents substances and microorganisms and prevents the loss of important fluids due to mutations, are also implicated. in severe atopic dermatitis. As the potential for increased transdermal water loss, pH changes and dehydration occur. Other genetic changes have also been discovered, which can alter the skin's barrier function, leading to the atopic dermatitis phenotype.⁷

The role of the environment in causing atopic dermatitis and the influence of chemicals such as formaldehyde, fragrances, corrosive detergents and preservatives must also be considered. The use of harsh alkaline detergents in skin care products can also adversely change the skin's pH, leading to changes in enzyme activity and causing

inflammation. Environmental pollutants can trigger responses in innate and adaptive immune pathways.⁸

Manifestations associated with atopic dermatitis:

- Xeroderma: dry skin in areas not affected by eczema. It is present in 73% of atopic patients. (Transdermal water loss increases and stratum corneum retention decreases);
- Pityriasis alba: hypopigmentation, rounded areas, diffuse edges and fine scales (higher incidence between 6 and 12 years old);
- Keratosis pilaris: 55% of atopic patients. They are papules or pustules 1 to 2 cm in diameter, wrinkled and follicular in shape.
- Palmoplantar hyperlinearity: The lines of the palms and soles of the feet are increased. (More than 90% of patients.)
- Other manifestations are periorbital pigmentation, Dennie-Morgan lines (a bulging line on the lower eyelid), anterior cervical crease, and allergic keratoconjunctivitis. Considering the relevance of clinical findings to the definition of dermatitis, these signs are useful in the diagnosis in many cases.^{9,10}

REFERENCES

1. Leite RMS, Leite AAC, Costa IMC. **Dermatite atópica: Uma doença cutânea ou uma doença sistêmica? A procura de respostas na história da dermatologia.** An Bras Dermatol. 2007;82(1):71–8.
2. Sociedade Brasileira de Pediatria [homepage na internet]. **Atualização em Dermatite Atópica.** Disponível em: <https://www.sbp.com.br/>
3. Simão HM. **ATUALIZAÇÃO EM DERMATITE ATÓPICA.** Available from: https://www.sbp.com.br/fileadmin/user_upload/pdfs/DERMATITE_ATOPICA_ATUALIZACAO_EM.pdf
4. Silvestre Salvador JF, Romero-Pérez D, Encabo-Durán B. **Atopic dermatitis in adults: A diagnostic challenge.** J Investig Allergol Clin Immunol. 2017;27(2):78–88.
5. Antunes AA, Solé D, Carvalho VO, Bau AEK, Kuschnir FC, Mallozi MC, et al. **Guia prático de atualização em dermatite atópica - Parte I: etiopatogenia, clínica e diagnóstico.** Posicionamento conjunto da Associação Brasileira de Alergia e Imunologia e da Sociedade Brasileira de Pediatria. Arq Asma, Alerg e Imunol. 2017;1(2):131–56.
6. Wu W, Peng G, Yang F, Zhang Y, Mu Z, Han X. **Sulforaphane has a therapeutic effect in an atopic dermatitis murine model and activates the Nrf2/HO-1 axis.** Mol Med Rep. 2019;20(2):1761–71.
7. Sant' FA, Addor A, Aoki V. Skin barrier in atopic dermatitis **Barreira cutânea na dermatite atópica.** An Bras Dermatol. 2010;85(2):184–94.
8. Do A, Mineiro C. Pediatria ODE. Anais Do 1o Congresso Mineiro Online De Pediatria. Rev Médica Minas Gerais. 2020;30.
9. Ferreira VRT, Müller MC, Jorge HZ. **Dinâmica das relações em famílias com um membro portador de dermatite atópica: Um estudo qualitativo.** Psicol em Estud. 2006;11(3):617–25.
10. Júnior R. **Atualização no tratamento da dermatite atópica.** Rev Paul Pediatr. 2006;24(4):356–62.