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Dermatographism: Clinical Implications and Patient Management

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ABSTRACT

Dermographism is the most common induced dermatopathy in the world, presenting in multiple age groups and even with different pathologies such as comorbidities, its clinic, although variable, can present as the presence of erythematous lesions on the skin. literally this pathology means "writing on the skin", which can be alarming for some patients.

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INTRODUCTION

Dermatographism, or also called factitious urticaria, is an eruption achieved when pressure is exerted on the skin with different objects or even fingers, this triggering the presence of erythematosis skin reactions which have an innumerable number of causes. This patology is the most frequent type of urticaria that can be inducible and is present in up to 5% of the population. This word comes from Latin, which literally means "to write on the skin". However, only a small percentage of patients with this condition become symptomatic with itching, stinging and even a stinging sensation that can be a common reason for consultation.[1,2]

The cause of this medical condition is unknown for sure, but it is believed to be a type 1 hypersensitivity reaction caused by the release of mast cells and risk factors have even been determined, such as diabetes, hypothyroidism, hyperthyroidism and even medications. [2,3]

As mentioned before, dermatographism is the most frequent type of urticaria in young adults, a clear relationship between race and this condition has not been determined, there are even reports of dermatographism inheriting in the family. [3]

In its most common form, Red Dermographism, called in different ways, dermatographic urticaria, dermatographism or cutaneous writing, which does not follow the path of Blaschko's lines, which are invisible skin lines under normal conditions, which manifest when in the presence of some skin or mucous membrane diseases, follow a "V" shape on the back and spirals in an "S" shape on the chest, stomach and sides, and undulations on the head, but rather the line of the tracing that occurs when presses or rubs the skin with an object. The other well-known form is White Dermographism, which manifests itself when the initial red line is usually replaced after a few seconds by a white halo around the provocation site or the absence of erythema in the pressure area. It is also known as Sergent's white striae, and is generally a marker or stigma of atopy, although it can occur in neuropathic patients. [3]

Black dermographism is sometimes described as a dark line produced by rubbing the skin with metallic ornaments, which have been previously treated with zinc oxide or titanium oxide powders; the dust drags metallic gold or silver particles and causes them to settle on the skin and stain it black. In clinical experience, in the context of expressions of atopy, the appearance of a combination of red dermatographism and white dermatographism has been observed, which is described as "Mixed or Biphasic Dermographism", of which there is no clinical description in the literature. [3,4]

A type of dermatocold, also known as hyperesinophilic syndrome, has been described in children, which is associated with children with allergies and a high number of eosinophils in the tests performed. It has been seen that people with traumatic events in their lives are more likely to develop it. In Behcet's disease, dermatographism has been found to be a fairly common finding.[3]

Although there are multiple theories of the etiology of this pathology, it is believed that there is a strong relationship between H. Pylori, penicillin abuse, bites and even systemic

mastocytosis are some of the causes that could explain this phenomenon.[4]

PATHOPHYSIOLOGY

Exactly the mechanism by which dermatographism is possible has not been clearly explained, it is believed that the trauma in the vasoactive mediators that liberate the mast cells are activated as a consequence of signals with bound IgE. It is believed that this causes a series of events that trigger different reactions: vasodilatation, superficial erythema, reflex of the axon that communicates with the nerve fibers, causing fluid transudation. All this cascade of events occurs up to 6 minutes after a strong trauma to the skin, and can persist up to half an hour after its onset. Some of the mediators involved in this phenomenon are histamine, bradykinin, heparin and substance P. [5,6]

Histopathological studies demonstrate an edema with few mononuclear cells, similar to acute urticaria.[6]

DIAGNOSIS

The presence of lesions that appear after mechanical trauma to the skin guides the diagnosis. It will be necessary to correlate the size of the injury with the amount of force applied at the time of producing the injury. If the itching worsens at night, it should be explained that it may be due to contact with the bed clothes and sheets, as well as contact with the friction areas. [7]

Dermatographism occurs quite frequently on the extremities and trunk, with less prevalence in areas such as the genitals and scalp. However, there is literature indicating that female patients have dysparunia and vulvodynia. [7]

There are several rare subtypes of dermatographism: [7]

Red or erythematous dermatographism (dotted wheals on torso)

Follicular-type dermographism (isolated urticarial papules)

Cholinergic dermatographism (Large erythematous line marked by dotted wheals)

Dermographism of late predominance (painful urticarial lesion reappears 3 to 8 hours after the initial lesion that persists up to 48 hours).[7]

TREATMENT

The identification, as well as the prevention of triggering factors, are key to reducing stress on the skin and thus avoiding the presence of dermatographism. Therapy with type H1 antihistamines (loratadine) and even combinations with H2 for a more complete therapy that controls symptoms such as itching. It is evident that pharmacological therapy is limited to patients with severe symptoms that require control, even hydroxyzine is a sedative antihistamine that can be given before bedtime.[8]

Monoclonal antibodies such as omalizumab are still under study, however the cost/benefit ratio remains in question.[8]

DIFFERENTIAL DIAGNOSIS

False dermatographism should always be ruled out, which is a disease that presents the same lesions but is due to a different mechanism. This can be presented by whitish, black and even yellow lesions. The black one is usually present due to contact with metallic objects and the yellow one due to bile deposits on the skin. [9]

Another condition easily confused with dermatographism is latex allergy, which is characterized by erythematous rashes when the patient comes into contact with objects such as elastic bands, balloons, gloves, and even condoms.[9]

CONCLUSIONS

As it is an alarming pathology at first sight and bothersome in most cases, antihistamine therapy is the mainstay for symptomatic treatment, as well as avoiding skin contact with hard surfaces that can frequently trigger this response. Educational therapy for patients is important so that when symptoms worsen, they go to the doctor to avoid further involvement.

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