

A Review on the Dermatographia and its Effects

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Abstracts: The urticarial rash known as dermatographism, also called dermatographism urticaria or urticaria factitia, develops in response to pressure or skin trauma. Inscribing on the skin is the true meaning. A downward force on the skin results in the formation of a linear wheal that mimics the pattern of the external force applied. Two to five percent of the population suffer from the very common form of induced or physical urticaria, known as dermatographism. Some people with dermatographism also experience itching symptoms in addition to the reddened hives. This exercise examines the diagnosis and treatment of dermatographism and the role the profession plays in coordinating care and improving patient outcomes.

1. INTRODUCTION

A urticarial eruption brought on by pressure or stress to the skin is referred to as dermatologic urticaria, also known as dermatographism urticaria or urticaria factitia. There are numerous reasons for urticarial skin responses, which manifest as erythematous wheals in the dermis. The most prevalent form of inducible or physical urticaria, which affects 2% to 5% of the population, is dermatographism. Dermatographism, which literally translates to "writing on the skin," is a condition in which downward pressure on the skin results in linear erythematous wheals in the dermis that are shaped like the external force being applied. A tiny percentage of those who have dermatographism have itching, stinging, or prickling sensations as symptoms, which can be irritating for the sufferer.



Fig 1 dermatographia seen in human body

Etiology

It is uncertain what exactly causes dermatographism. Considered relevant to the production of histamine by mast cells in the body. [2] Studies in people with insulin resistance, a high degree of hypothyroidism, menopause, pregnancy, or drug-induced dermatographism have been reported.

Epidemiology

The most common form of urticaria is dermatographism, which mostly affects young adults and peaks in the second and third decades of life. An association between race and dermatographism has not been demonstrated. A study of paediatric patients found a gender bias favouring women. [3] One study reported a case of familial dermatographism. [4]

Atopic children and increased dermatographism are associated with hyper eosinophilic syndrome, which also causes more eosinophils to accumulate in the blood. Dermatographism occurs in a third of patients who have psychological comorbidities in addition to traumatic life events. [5] In addition, the disease was more common during stressful times such as pregnancy (often in the second trimester) and the onset of menopause. Another condition in which dermatographism is common is Behcet's disease, which is characterized by oral and vaginal ulcers.

While severe dermatographism is often considered a form of spontaneous dermatographism, these are additional explanations. According to numerous studies, the symptoms that most often indicate a connection include bite-sized bites, scabies and substances such as antibiotics and H. pylori. Spontaneous symptomatic dermatographism is another important indicator of systemic mastocytosis. [6]

Pathophysiology

There's no definitive explanation that clarifies how dermatographism emerges. Despite interactions among antigen-bound IgE as well as mast cells, mechanical strain promotes the production of vasoactive mediators. This is believed to trigger off a biological reaction described as the "triple response of Lewis". The itchy phase that primarily happens due to the capillaries widening is only temporary. After arteriolar expansion, an erythema expands as a result of an axon-reflex flare and transmission to sensory nerve fibres. Fluid transudation is ultimately accountable for the linear wave. This entire response can typically last up to five minutes after stimulation from external sources such as: B. brushing the skin has taken place. Although the hives can last between fifteen and thirty minutes, the Lewis triple reaction often subsides within ten minutes. Histamine, leukotrienes, bradykinin, heparin, kallikrein and peptides containing substances P have been proposed as mediators of this mechanism.

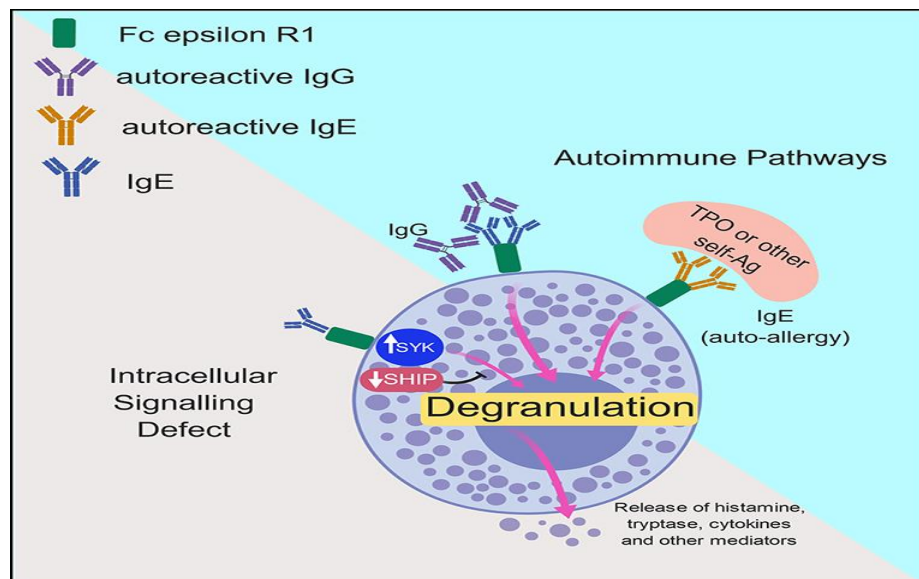


Fig 2 pathophysiology of dermatographism

Histopathology

Similar to the pathology of severe urticaria or dermatological pathology, skin edema presents with fewer perivascular mononuclear cells present.

History and physical

Dermatographism spots arise after mechanical movement damage to the outermost layer of skin, especially through stroking. After about five to ten minutes, a wheal begins to form and expand. The wheal will continue for another fifteen to thirty minutes. The edema penetrates deeper into the outer layer of skin and enlarges the wheal. In symptomatic dermatographism, itching is accompanied by a wheal. The itching is worsened by fear of heat, discomfort, physical activity and also at night (possibly due to the rubbing of the layers and the pulling of the skin against the skin).

Dermatographism typically affects the back, hands and feet, as well as other parts of the body. The most commonly cited regions are the hairline and vaginal area, although both weakness and vulvodynia are associated with severe dermatographism in the scientific literature. [7]

There are also several rare forms of dermatographism, such as: B. reddish colored, few punctate wheals, especially on the trunk. ring-shaped dermatographism known for isolated urticarial papules. Similar to acetylcholine urticaria or acetylcholine dermatographism, it is a broad reddened line with punctate wheals. The sensitive urticarial rash may reappear three to eight hours after the initial wound and last for a maximum of 48 hours. due to training and cold, family related.

Symptoms

Rubbing the surface of the skin can trigger dermatography problems. The first signs of symptoms appear slowly. However, these are reactions to scratches. These clues can appear unexpectedly. Dermatography can cause, among other things, irritation, raised sores that resemble writing, severe cuts, and raised areas that can resemble beehives. Edema or inflammatory conditions or all. The condition typically lasts thirty minutes. Symptoms rarely last longer than a day. Dermographism, on the other hand, can last for several months or years. Extreme temperatures can worsen symptoms. Dermographism may occur more frequently in dry weather. Cold water is produced in bathtubs, whirlpools and saunas, which can better relieve symptoms.

Principles of Dermatographism

The specific causes of dermatography are uncertain. A number of factors are believed to contribute to the circumstances: anxiety, a number of allergens, increased exposure through bedding or clothing, illness, and multiple medications, including antibiotics, are some of the variables that lead to increased skin pressure during pregnancy Sports like grappling. The causes of dermatography are unknown, but some infections may occur. You may be more likely if you are prone to dry skin, have had a history of irritation, have a condition that causes inflammation of the epidermis, are young adults who regularly scratch their complexion, have a thyroid disorder, or frequently suffer from dermatitis. have an internal disease or skin disease that causes itching. Children are generally more likely to develop rashes, while young people and adolescents are particularly susceptible to dermatography.

Treatment and management

To regulate dermatographism, complaints such as exertion and relief from stress must be reduced and prevented. Since many people have no manifestations, only these people should receive therapy. The preferred medications include the administration of H1 antihistamines such as loratadine or cetirizine. H2 antagonists can be used in addition to H1 blockers for more comprehensive therapies, but they do not effectively relieve itching. One best option is the patient before going to sleep must taken the sedating antihistamine like hydroxyzine.

Omalizumab, a drug with 72% success at 150 mg per day and 58% effectiveness at 300 mg, has been evaluated in dermatology studies. The individual Dermal Lifestyle Quality Index (DLQI) showed an improvement of at least four of its points, so that's notable. [8] Laser treatment has been used with some success to cure dermatographism, although most sufferers recovered within two to three months of cessation of therapy. It is recommended to take one thousand milligrams of over-the-counter vitamin C supplement every day to support histamine breakdown and hot flash relief, which may help reduce the severity of Lewis triple reaction. [9]

Prevention

Finding the triggers that make their illness worse is one of the most crucial things people with dermatographia can do. Heat, activity, and emotional situations are just a few triggers. In one study, for instance, 44 percent of participants said that stress could lead to severe cases of skin cancer. The suggestions that follow may lessen how severe dermatographia episodes are: avoiding itchy fabrics like wool; frequently applying moisturiser; wearing loose, non-restrictive clothing; avoiding extremely hot or extremely cold showers or baths; being gentle when towel-drying after swimming or bathing; and wearing sunscreen and avoiding excessive sun exposure.

Differential Diagnosis

Since dermatographism is the main disease, it is important to rule out pseudo dermatographism, a disease that has a clear underlying factor but which has obvious similarities to dermatographism. There are different shades of pseudo dermatographism, e.g. B. White, black and yellow. White dermatographism is a second-degree allergic skin rash that commonly occurs in allergy sufferers. The connection of metallic compounds is indicated by the development of black dermatographism. The bile formation of bacteria causes the skin to develop yellow dermatographism. When dermatographism is the predominant disparity, it is important to rule out false dermatographism, which has a different cause but has clinical similarity to dermatographism. Black dermatographism develops after contact with metallic objects. Bile deposits cause yellow dermatographism in the skin. In adults, the likelihood of systemic mastocytosis is higher, and symptoms mainly depend on the organ affected, such as the liver, spleen, bone marrow, or small intestine. The most common form of benign cutaneous mastocytosis in children is urticaria pigmentosa. [11]

Projection

A benign disease is dermatographism. In rare cases, the disease can also be accompanied by pruritus. Compared to the other chronic forms of urticaria, symptomatic dermatographism heals more quickly after 5 years (36%) and 10 years (51%). [12]

Complication

There are no immediate side effects of dermatology. However, if the patient is receiving therapy with sedating antihistamines, he or she may be required to perform certain tasks, such as: B. exercise caution when operating machines or vehicles.

Interdiction and Patient Knowledge

Patient Education and Deterrence: Dermographism can be unpleasant in its slow progression without resolution. It must be clear to patients that the disease is harmless. Antihistamines, the medication in question, can make you sleepy; It is therefore advisable to advise the patient not to take it before driving.

Healthcare Outcomes Measures

Improving healthcare team outcomes: Dermographism is often viewed by those affected and their families as a harmless, just worrying condition. To alleviate these triggers, it is essential to fully inform the person being treated and their relatives about the dangers associated with the onset of dermatographism. It is important to use a team-based strategy to educate the audience. Promote reduction of external stimuli, efficient management and treatment alternatives. Assessment by the family doctor. Consult a dermatologist if the diagnosis is uncertain.

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