OASIS DERMATOLOGY GROUP

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Urticaria

Urticaria, commonly known as hives, is a dermatologic condition characterized by the sudden appearance of raised, itchy welts on the skin. These welts, known as wheals, vary in size and shape and typically fade within hours, leaving no residual marks. However, in some cases, the hives can be accompanied by a burning or stinging sensation. While individual hives may last only a few hours, new lesions often emerge as older ones disappear, leading to a cycle of recurrent flare-ups. Urticaria can also present with swelling of deeper tissues, particularly around the eyes, mouth, hands, or genitalia, known as angioedema, which is typically transient and resolves within 24 hours.

Epidemiology and Clinical Features

Urticaria is highly prevalent, with approximately 10-20% of the population experiencing at least one episode during their lifetime. While the majority of cases are acute and self-limiting, a subset of individuals experiences recurrent episodes, which may be associated with underlying conditions. Acute urticaria often results from viral infections or allergic reactions to foods, medications, or insect stings, with common triggers including nuts, shellfish, eggs, chocolate, and dairy products. Symptoms usually manifest within hours of exposure to the offending agent. However, there are also physical forms of urticaria, including dermatographism, cholinergic urticaria, and pressure urticaria, which occur due to physical stimuli such as friction, heat, or cold.

Dermatographism, the most common physical urticaria, affects approximately 5% of the population and is characterized by raised, itchy welts in response to scratching or firm rubbing of the skin. Cholinergic urticaria occurs when a person reacts to stimuli that raise the body temperature, such as exercise, hot showers, or emotional stress, leading to tiny, intensely itchy hives surrounded by erythema. Pressure urticaria presents as deep, painful welts where sustained pressure has been applied to the skin.

In rare instances, hives may persist for longer than six weeks, leading to chronic urticaria (CU), a condition that can be both frustrating and debilitating. Approximately 1% of the population suffers from chronic urticaria, which is characterized by recurring episodes lasting more than six weeks. In these cases, the cause is often not immediately apparent and can be classified as idiopathic, meaning no clear etiology is identifiable.

Pathophysiology

The pathophysiology of urticaria involves the activation of mast cells and the release of histamine, leading to vasodilation, increased vascular permeability, and the formation of wheals on the skin. In acute urticaria, this process is typically triggered by an allergen or infection, which binds to IgE

antibodies on mast cells, resulting in histamine release. In chronic cases, particularly autoimmune urticaria, the immune system may erroneously target the body's own tissues, with antibodies stimulating mast cells to release histamine without any external trigger.

In about 50% of chronic urticaria cases, there is evidence of autoimmunity, where the body's immune system attacks its own cells, triggering the release of histamine and other inflammatory mediators. Autoimmune conditions, such as thyroid disease, vitiligo, and systemic lupus erythematosus, have been associated with urticaria, and elevated levels of anti-thyroid antibodies are frequently observed in these patients.

Diagnosis

The diagnosis of urticaria is largely clinical and based on the patient's medical history and characteristic presentation of welts and pruritus. For acute urticaria, identifying the trigger—whether viral, allergic, or physical—can often be accomplished through careful history taking. In chronic cases, a thorough work-up is warranted to rule out potential underlying causes, such as infections, thyroid disorders, autoimmune diseases, or food and drug allergies. A combination of physical examination, blood tests, and in rare cases, a skin biopsy, can help exclude other differential diagnoses. Specific tests such as autoantibody assays or skin prick tests may be helpful in chronic cases, particularly when autoimmune urticaria is suspected.

Treatment Strategies

- **Acute Urticaria**

  In the majority of cases, acute urticaria resolves without medical intervention. The mainstay of treatment involves antihistamines, which block the action of histamine on H1 receptors, reducing itching and swelling. First-generation antihistamines (e.g., diphenhydramine) are sedating but effective for short-term use. Second-generation antihistamines, such as fexofenadine, loratadine, and cetirizine, are non-sedating and are preferred for daily management due to their favorable side-effect profile. If symptoms persist despite the use of antihistamines, a short course of oral corticosteroids (e.g., prednisone) may be used to control inflammation, though these should be limited to short durations due to the potential for significant side effects with long-term use.

- **Chronic Urticaria**

  For chronic urticaria, the treatment approach focuses on managing symptoms and preventing flare-ups, as identifying the exact trigger is often not possible. Antihistamines remain the first-line treatment, and higher doses may be necessary for adequate control. If antihistamines are insufficient, H2 antagonists (e.g., ranitidine) or leukotriene modifiers (e.g., montelukast) may be added to the treatment regimen. In cases of autoimmune urticaria, immune-modulating therapies may be required.

Recent studies have demonstrated the effectiveness of hydroxychloroquine, an antimalarial drug with anti-inflammatory properties, in the treatment of autoimmune urticaria. In clinical trials, approximately 83% of patients experienced improvement or complete resolution of symptoms when treated with hydroxychloroquine for three months or more. Cyclosporine, an immunosuppressive medication typically used in organ transplantation and autoimmune diseases, has also shown efficacy in refractory chronic urticaria, though its use is limited by potential side effects such as nephrotoxicity.

For patients who fail to respond to standard therapies, other medications such as dapsone, nifedipine, and colchicine may be considered. These agents can modulate inflammation or alter mast cell degranulation, though they are not universally effective and should be used with caution. Omalizumab, a monoclonal antibody targeting IgE, has been approved for chronic urticaria that does not respond to antihistamines and represents a promising option for refractory cases.

Conclusion

Urticaria is a common and often benign condition, though it can be chronic and debilitating in some cases. Treatment primarily involves antihistamines, with corticosteroids and other immune-modulating agents used for more severe or persistent cases. Understanding the underlying causes, especially in chronic urticaria, is crucial for effective management. Emerging therapies, such as hydroxychloroquine and omalizumab, offer hope for patients with autoimmune and refractory urticaria, respectively. Collaboration between the patient and healthcare provider is essential to tailor the most appropriate treatment plan and improve quality of life.

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