CONDITION

Cholinergic type physical urticaria

Learn how cholinergic urticaria causes small, itchy hives after sweating or warming, how it is diagnosed, and which treatments may help.

WHAT IT IS
Chronic inducible form of hives

BODY SYSTEM
Skin

MAIN SYMPTOMS
Small itchy wheals, flushing, stinging, burning

WHAT CAUSES IT
Immune response to warming and sweating

HOW IT IS DIAGNOSED
Supervised exercise or passive warming test

MAIN TREATMENT
Second-generation H1 antihistamines

CAN IT BE CURED?
No, treatment aims to reduce symptoms

IS IT AN EMERGENCY?
Sometimes, with trouble breathing

LONG-TERM OUTLOOK
Recurring episodes may limit daily life

Overview

Cholinergic type physical urticaria, usually called cholinergic urticaria , is a form of hives triggered by an increase in body temperature and the start of sweating. Exercise, hot showers, emotional stress, and hot environments are common triggers.

The condition belongs to a group called chronic inducible urticarias . "Inducible" means that a specific exposure or activity brings on the hives. The older term "physical urticaria" is still sometimes used.

During an episode, many tiny raised spots called wheals appear on the skin. They may itch, sting, burn, or feel warm. The spots often develop within minutes of sweating and fade after the body cools. Individual wheals usually disappear without leaving a mark.

Cholinergic urticaria can interfere with exercise, work, sleep, and daily activities. Some people begin avoiding heat or physical activity because they are worried about symptoms. Most episodes involve the skin only, but a small number of people develop symptoms elsewhere in the body. Recognizing those symptoms helps separate routine episodes from reactions that need urgent care.

Symptoms

The typical rash consists of numerous pinpoint or small wheals surrounded by areas of red skin. The spots are often about the size of a pinhead, although they may join together and look larger.

Symptoms commonly begin on the upper chest, neck, upper back, or arms. They may then spread across much of the body. The palms, soles, and underarms are often less affected.

Skin symptoms may include:

Episodes often settle within an hour, although the exact timing varies. The rash should not leave bruises or lasting discoloration. Wheals that remain in the same place for more than 24 hours, are painful rather than itchy, or leave bruising may have another cause and should be assessed.

Some people have symptoms beyond the skin, such as headache, nausea, abdominal discomfort, wheezing, or shortness of breath. These symptoms deserve medical review because they can overlap with exercise-induced allergic reactions or asthma.

Seek emergency help for trouble breathing, throat tightness, swelling of the tongue or throat, fainting, confusion, severe dizziness, or rapidly worsening symptoms involving more than one body system. If an epinephrine auto-injector has been prescribed, use it as directed and call emergency services. Antihistamines like cetirizine or loratadine do not replace epinephrine when anaphylaxis is suspected.

- Itching, prickling, stinging, or burning
- Small, raised wheals with red areas around them
- Flushing or a general feeling of warmth
- Symptoms beginning within minutes of sweating
- Improvement after stopping the trigger and cooling down

Causes and risk factors

Cholinergic urticaria is linked to the body's response to warming and sweating. The name refers to acetylcholine , a chemical messenger released by nerves that activate sweat glands.

In affected skin, the sweating response can activate mast cells . These immune cells release histamine and other chemicals, producing itching, redness, and wheals. The exact mechanism is not the same in every person.

Researchers have described several possible subtypes. Some people appear unusually sensitive to components of their own sweat. Others have areas where sweating is reduced or absent. A person with reduced sweating may have more difficulty releasing body heat and may need specialist assessment, particularly if overheating causes weakness, dizziness, or confusion.

Common triggers include:

Cholinergic urticaria often begins in adolescence or early adulthood, but it can occur at other ages. It may occur alongside eczema, asthma, hay fever, or other forms of urticaria, although these conditions do not prove that a person has cholinergic urticaria.

Symptoms caused only by direct contact with a hot object or localized heat may instead represent heat urticaria . Hives caused by cold, pressure, sunlight, water, or skin scratching are other inducible urticarias with different triggers.

- Exercise or other activity that causes sweating
- Hot showers, baths, or saunas
- Warm weather or heated indoor spaces
- Emotional stress, anxiety, anger, or embarrassment
- Spicy foods or hot drinks
- Fever or rapid changes in body temperature

Diagnosis

Diagnosis usually begins with a detailed history. A clinician will ask what brings on the rash, how quickly it appears, how long it lasts, and whether there are breathing, digestive, or fainting symptoms.

Photographs taken during an episode can be helpful because the rash may disappear before an appointment. A written record of triggers, timing, medicines, and associated symptoms may also show useful patterns.

When the history is not clear, a specialist may use a provocation test , which deliberately

reproduces the suspected trigger in a supervised setting. This may involve controlled exercise, such as walking on a treadmill or using a stationary bicycle. Passive warming, such as a carefully monitored warm bath, may help confirm that an increase in body temperature rather than exercise itself causes the reaction.

Provocation testing should be medically supervised when there is a history of breathing difficulty, fainting, or widespread reactions. Trying to reproduce a severe reaction alone is not recommended.

Routine blood tests usually do not confirm cholinergic urticaria. Testing may be used when symptoms suggest another condition or when the rash does not have the usual pattern.

Conditions a clinician may consider include:

A medication review is also important. Some medicines can worsen hives or make allergic reactions harder to manage, but medicines should not be stopped without professional advice.

- Exercise-induced anaphylaxis, including reactions that require both exercise and a recently eaten food
- Exercise-triggered asthma
- Heat urticaria or another chronic inducible urticaria
- Chronic spontaneous urticaria, in which hives occur without a consistent trigger
- Skin flushing without wheals
- Inflammatory conditions if individual spots last longer than 24 hours or leave bruising

Treatment and management

Treatment aims to reduce symptoms while allowing safe participation in daily life. The best plan depends on how often episodes occur, whether triggers can be predicted, and whether symptoms ever extend beyond the skin.

Practical measures may reduce exposure without requiring a person to avoid all activity. Options include exercising in a cooler environment, wearing breathable clothing, taking lukewarm rather than hot showers, and cooling down when symptoms begin. A clinician can help develop a safe approach to activity if exercise has caused significant reactions.

Food-dependent exercise-induced anaphylaxis is different from cholinergic urticaria. A person who reacts only when exercise follows a particular food, alcohol use, or certain medicine use should discuss that pattern with an allergy specialist rather than making broad dietary restrictions.

Second-generation H1 antihistamines are the main medicines used for chronic urticaria. These medicines block histamine and generally cause less drowsiness than older antihistamines. A clinician may recommend regular use or a plan related to predictable triggers.

If a usual dose does not control symptoms, international urticaria guidance allows clinicians to consider increasing the dose of a second-generation antihistamine, sometimes up to four times the standard dose. This should be done under medical guidance. The appropriate medicine and schedule depend on age, health conditions, pregnancy status, other medicines, and local prescribing information.

Older, sedating antihistamines can impair driving, learning, work, and coordination. Their effects may last into the next day. Combining them with alcohol or other sedating substances can increase impairment.

For symptoms that remain troublesome despite an appropriate antihistamine plan, referral to an allergist or dermatologist may be useful. Specialists can confirm the diagnosis, assess sweating, and consider additional treatment. Omalizumab , an injectable medicine that targets an allergic antibody called IgE, has helped some people with difficult cholinergic urticaria, but evidence is less consistent than it is for chronic spontaneous urticaria. Its approval for this specific use varies, so treatment requires specialist discussion.

Other treatments have been studied, but evidence is limited and some have meaningful risks. Long-term oral corticosteroids are generally avoided because repeated or prolonged use can cause substantial side effects.

A person with previous anaphylaxis or serious whole-body symptoms may be prescribed an epinephrine auto-injector. The prescriber should explain when and how to use it, how to store it, and why emergency assessment is still needed after use.

Complications

The most common complications involve quality of life. Fear of symptoms can lead to avoiding exercise, warm environments, social events, or work duties. Reduced physical activity can affect fitness and emotional well-being. A treatment plan should therefore address both symptom control and safe ways to remain active.

Frequent scratching may irritate the skin, although lasting skin injury is not typical. Persistent marks, blistering, or bruising suggest that the rash should be reassessed.

Serious systemic reactions are not the usual pattern, but they can occur. Breathing problems, low blood pressure, fainting, or symptoms involving several body systems may indicate anaphylaxis or another exercise-related disorder.

People who sweat very little may be at risk of overheating during exercise or hot weather. Confusion, collapse, or severe weakness in the heat is an emergency. Move to a cooler place and call emergency services.

Follow up

Routine follow-up is appropriate when episodes are recurring, limiting activity, disturbing sleep, or not controlled by the current plan. Follow-up also allows a clinician to check medicine effectiveness, side effects, and whether the pattern still fits cholinergic urticaria.

Arrange a prompt appointment if the rash begins lasting longer than usual, leaves bruises, occurs without warming or sweating, or is accompanied by new breathing or digestive symptoms. A specialist review is reasonable when the diagnosis is uncertain, sweating appears reduced, or standard treatment has not helped.

Keep a brief symptom record before appointments. Note the trigger, timing, rash location, duration, associated symptoms, and what helped. Bring photographs and a list of all medicines and supplements.

Emergency symptoms should not wait for routine follow-up. Call emergency services for throat or tongue swelling, severe breathing difficulty, fainting, confusion, or rapidly worsening symptoms affecting more than one body system.

Sources

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