CONDITION

ACH

Learn about acrodermatitis continua of Hallopeau (ACH), a rare form of pustular psoriasis affecting the fingertips, toes, and nails.

WHAT IT IS
Rare long-lasting form of pustular psoriasis

BODY SYSTEM
Skin and nails

MAIN SYMPTOMS
Pustules, red swollen skin, pain, nail changes

WHAT CAUSES IT
Immune-mediated, exact cause not fully understood

HOW IT IS DIAGNOSED
Clinical examination, sometimes skin biopsy

MAIN TREATMENT
Topical or systemic anti-inflammatory medicines

CAN IT BE CURED?
No, treatment controls inflammation and flares

IS IT AN EMERGENCY?
Sometimes, fever or rapidly spreading redness

LONG-TERM OUTLOOK
Repeated flares with possible permanent nail or bone damage

Overview

ACH stands for acrodermatitis continua of Hallopeau . It is a rare, long-lasting form of pustular psoriasis that mainly affects the tips of the fingers or toes and the skin around or under the nails.

Pustular psoriasis causes small, pus-filled bumps called pustules. In ACH, the pus is usually sterile , meaning bacteria are not causing it. However, an infection can look similar or develop in damaged skin, so medical evaluation is important.

ACH often begins on one finger or toe. Pustules may repeatedly form, dry into crusts or scales, and return. Over time, inflammation can damage the nail and nearby tissue. Some people have difficulty using an affected finger, walking, wearing shoes, or completing daily tasks.

ACH is considered part of the pustular psoriasis group. It differs from plaque psoriasis, which usually causes raised, scaly patches. A person can have ACH without having typical plaque psoriasis elsewhere.

Because ACH is uncommon and can resemble an infection, eczema, or another nail disorder, diagnosis may take time. Treatment can reduce inflammation, protect function, and limit permanent nail or bone damage, although finding an effective treatment may require several approaches.

Symptoms

ACH usually affects the end of a finger or toe. It may start after a minor injury or infection, although many people cannot identify a trigger.

Common features include:

The pustules may join together and later dry out. New pustules can then appear under the crusted skin. This repeated cycle may continue for months or years.

Nail involvement is common because ACH often affects the nail unit, which includes the nail plate, nail bed, and the tissue that produces the nail. The nail may develop ridges, discoloration, thickening, crumbling, lifting, or small pits. Severe inflammation can stop normal nail growth and may eventually lead to partial or complete nail loss.

ACH sometimes spreads from one fingertip or toe to nearby digits, the palm, or the sole. Rarely, pustules may become more widespread. Fever, chills, marked weakness, or rapidly spreading painful redness are not symptoms to manage only at home and need prompt medical assessment.

- Groups of small, yellow or white pustules
- Red, tender, or swollen skin
- Scaling, peeling, cracking, or crusting
- Burning, throbbing, itching, or pain
- Repeated flares in the same area
- Changes in the nearby nail

Causes and risk factors

The exact cause of ACH is not fully understood. It is an immune-mediated disease, meaning

the immune system produces inflammation in the skin even though there is no infection to fight.

Inflammatory signaling involving a protein called interleukin-36 , or IL-36, appears to be important in pustular psoriasis. Changes in genes involved in this pathway, including `IL36RN`, have been found in some people with pustular psoriasis. Other genes may also contribute. Most people with ACH do not need genetic testing, and having a genetic change does not necessarily predict how severe the condition will be.

Possible triggers reported before ACH begins or flares include:

These associations do not prove that a trigger caused the condition. ACH can occur without any clear starting event.

Because ACH is rare, its risk factors are not as well defined as those for more common forms of psoriasis. It is not contagious. It cannot be spread through touch, shared towels, or contact with fluid from the pustules.

- Injury to a fingertip, toe, or nail
- Repeated friction or irritation
- A local skin or nail infection
- Physical or emotional stress
- Changes in certain medicines

Diagnosis

A dermatologist, a doctor who specializes in skin conditions, usually diagnoses ACH. There is no single blood test that confirms it. Diagnosis depends on the appearance and location of the skin changes, their history, and tests used to rule out other conditions.

The clinician may ask when the problem began, whether it followed an injury, and how it has changed. They may examine all fingernails and toenails, even if only one digit appears affected. They may also check the rest of the skin and ask about joint pain or a personal or family history of psoriasis.

Testing may include a sample of fluid, skin, or nail material. A laboratory can check for bacteria or fungi because bacterial nail-fold infections and fungal nail disease can resemble ACH. Finding an infection does not always explain all of the inflammation; infection and ACH can sometimes occur together.

A skin biopsy may be needed. During a biopsy, a clinician removes a small piece of affected

skin after numbing the area. A pathologist examines it under a microscope. ACH can show collections of immune cells called neutrophils within the outer layers of skin, but biopsy findings must be considered along with the clinical pattern.

Imaging such as an X-ray may be considered when symptoms are severe or long-lasting, particularly if there is concern about damage to the bone beneath the affected nail.

Conditions that may need to be excluded include bacterial or fungal infection, contact dermatitis, hand or foot eczema, herpetic whitlow, other forms of pustular psoriasis, and inflammatory nail disorders. Herpetic whitlow is a painful herpes infection of a finger and should not be cut open or drained.

Treatment and management

Treatment aims to control inflammation, reduce discomfort, preserve the nail and underlying structures, and prevent spread. ACH can be difficult to treat. Because it is rare, most evidence comes from case reports and small patient series rather than large clinical trials.

For limited disease, a dermatologist may prescribe a strong topical corticosteroid to reduce inflammation. Topical means that the medicine is applied directly to the skin. Covering the treated area for a set period, known as occlusion, may improve absorption, but this should be done only as instructed because it can also increase side effects.

Vitamin D-related creams, topical retinoids, or other anti-inflammatory medicines may be considered. Thick scale can prevent medicine from reaching the affected skin, so a clinician may recommend a product or skin-care method to soften it.

When topical treatment is not enough, treatment that affects the whole body may be considered. Options reported for ACH include oral retinoids, methotrexate, cyclosporine, and biologic medicines that target specific immune signals. Biologics used in psoriasis may target tumor necrosis factor, IL-17, IL-23, or related pathways. Responses vary, and many of these treatments are used off-label for ACH.

Systemic treatment requires an individualized discussion about expected benefits, monitoring, interactions, pregnancy considerations, and possible effects on the liver, kidneys, blood cells, blood pressure, or immune system. Some medicines require blood tests or screening for infections before and during treatment.

Antibiotics or antifungal medicines treat confirmed or strongly suspected infections; they do not treat the underlying sterile inflammation of ACH. Repeated antibiotic treatment without evidence of infection may delay appropriate care.

Helpful skin and nail care may include protecting affected digits from injury, wearing

well-fitting shoes, using gloves for wet work, and applying a plain moisturizer to dry or cracked skin. Avoid picking, squeezing, or draining pustules. Keep nails short, but do not cut into inflamed skin or aggressively remove damaged nail material.

Pain management and practical support are also important. Occupational therapy may help if finger disease limits hand function. A foot specialist may help with footwear or pressure-related problems affecting a toe.

Complications

Persistent ACH can damage the nail-producing tissue. The nail may grow abnormally or stop growing, and some changes can become permanent. Scarring at the fingertip or toe can affect sensation, grip, fine hand movements, walking, or footwear.

Long-standing, severe inflammation may extend to the bone and cause osteolysis , which means breakdown or loss of bone tissue. This is uncommon but can permanently change the shape or function of the affected digit.

Cracked or open skin can allow bacteria to enter, leading to a secondary infection. Increasing warmth, spreading redness, drainage with an odor, or worsening swelling may suggest infection, but these changes need examination because an ACH flare can look similar.

Pain, visible nail changes, and repeated treatment failures can also affect sleep, work, social activities, and emotional well-being. These effects are valid reasons to discuss additional support or a change in treatment.

In rare cases, localized pustular disease can become widespread. Generalized pustular psoriasis can cause extensive painful pustules with fever or systemic illness and requires urgent medical care.

Follow up

Routine dermatology follow-up helps assess whether pustules are returning, nail damage is progressing, or treatment is causing side effects. Photographs taken at similar intervals may help document changes. Tell the clinician about new skin areas, joint pain, changes in function, or difficulty following the treatment plan.

Contact the treating clinician promptly if symptoms worsen quickly, pain interferes with sleep or daily activity, or there are possible signs of infection. Earlier review may also be appropriate if a medicine causes a new rash or other concerning effects.

Seek urgent medical care for rapidly spreading redness, severe swelling, fever, chills, confusion, faintness, or extensive new pustules. Emergency care may be needed for breathing difficulty, swelling of the face or throat, or other signs of a severe allergic reaction.

Sources

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