CONDITION

Necrobiosis lipoidica diabeticorum

Necrobiosis lipoidica diabeticorum is a long-term inflammatory skin condition that usually causes thin, yellow-brown patches on the lower legs.

WHAT IT IS
Chronic inflammatory skin condition causing thin shin plaques

BODY SYSTEM
Skin

MAIN SYMPTOMS
Red-brown plaques, yellow centres, skin thinning, ulcers

WHAT CAUSES IT
Unknown; inflammation and small-vessel changes implicated

HOW IT IS DIAGNOSED
Skin examination, sometimes confirmed by biopsy

MAIN TREATMENT
Anti-inflammatory skin treatments and wound care

CAN IT BE CURED?
No - lesions may become inactive

IS IT AN EMERGENCY?
Sometimes - fever with rapidly spreading redness

LONG-TERM OUTLOOK
Often persistent, with possible scarring and ulceration

Overview

Necrobiosis lipoidica diabeticorum is an uncommon, long-term inflammatory skin condition. It most often affects the shins, where it causes slowly enlarging patches or plaques. A plaque is a raised or thickened area of skin.

The patches often develop a yellow-brown centre with a red, purple, or brown border. The skin in the centre may become thin, shiny, and easier to injure. Small blood vessels may be visible through it.

Despite its name, this condition does not occur only in people with diabetes. Many affected people have diabetes, but others do not. For this reason, it is now often shortened to necrobiosis lipoidica .

The condition is not contagious. It is not caused by poor hygiene, and it cannot be passed to another person. It matters because the skin changes may be noticeable, uncomfortable, or vulnerable to wounds. Some plaques remain stable for years, while others become open sores called ulcers.

Symptoms

Necrobiosis lipoidica usually begins as one or more small, firm bumps or flat patches. These may be red, reddish-brown, purple, or darker than the surrounding skin. They slowly expand over months.

As a plaque develops, it may have:

The shins are the most common location. Less often, lesions can appear on the ankles, feet, thighs, arms, trunk, scalp, or face.

Some plaques cause no physical symptoms. Others may itch, feel tender, or cause a burning sensation. Reduced feeling can develop within the thinned skin because nearby small nerves are affected.

The surface can split after a minor knock, scratch, or other injury. This may lead to an ulcer, which is an open wound that can be painful and slow to heal. An ulcer may produce fluid or develop a crust.

Appearance can differ across skin tones. Redness may look purple, grey, or deep brown on darker skin. Colour changes can remain even after inflammation becomes inactive.

- A yellow, orange-brown, or waxy-looking centre
- A raised red, purple, or brown edge
- Thin, shiny skin in the middle
- Small visible blood vessels
- An oval or irregular shape
- Similar patches on both lower legs

Causes and risk factors

The exact cause is not known. Necrobiosis lipoidica involves inflammation and damage to collagen, a protein that gives skin its strength and structure. Changes in very small blood vessels may also contribute.

The condition is associated with diabetes, including both type 1 and type 2 diabetes. However, having diabetes does not mean you will develop necrobiosis lipoidica, and having a typical plaque does not prove that you have diabetes.

Other reported associations include thyroid conditions, obesity, high blood pressure, and abnormal blood fats. These links do not establish a single cause. The condition is probably influenced by several processes rather than one trigger.

It is not known to be directly inherited. A family history is not usually present.

Injury can cause an existing plaque to break down. In some people, skin changes may also appear at sites of repeated trauma. This does not mean that ordinary activity caused the underlying condition.

Diagnosis

A healthcare professional may suspect necrobiosis lipoidica from the location and appearance of the plaques. A dermatologist, a doctor who specialises in skin conditions, may examine the colour, border, thickness, and surface of the affected skin.

A skin biopsy is sometimes needed. During a biopsy, a small sample of skin is removed after the area has been numbed. A laboratory then examines the tissue under a microscope. This can support the diagnosis and help rule out conditions that may look similar.

Biopsy is not required in every typical case. Because skin affected by necrobiosis lipoidica may heal slowly, the benefits and risks of taking a sample are considered carefully.

Tests may also be used to look for associated conditions. These can include blood glucose or HbA1c testing for diabetes. HbA1c reflects average blood glucose over the previous few months. Thyroid tests or other blood tests may be considered based on your medical history and symptoms.

Other conditions that can resemble necrobiosis lipoidica include granuloma annulare, some forms of dermatitis, problems with leg circulation, sarcoidosis, and certain infections. A new or changing lesion should not be identified from photographs alone.

Treatment and management

There is no single treatment that works reliably for everyone. Treatment is guided by whether a plaque is actively expanding, painful, ulcerated, or affecting daily life. Inactive, unbroken plaques may sometimes be monitored without active treatment.

Strong anti-inflammatory corticosteroid treatments may be applied to the active raised edge of a plaque or injected into selected areas. These medicines aim to reduce inflammation and slow expansion. They must be used carefully because corticosteroids like prednisone or hydrocortisone can further thin the skin, especially in the already delicate centre.

Other anti-inflammatory skin medicines, such as topical calcineurin inhibitors, may be considered. These affect immune activity in the skin without causing the same type of skin thinning as corticosteroids.

If the condition is widespread, ulcerated, or not responding to skin treatments, a dermatologist may discuss other options. These can include light-based treatment or medicines that affect inflammation, blood flow, or the immune system. Evidence for many treatments is limited, so potential benefits and side effects need individual discussion.

An open ulcer needs appropriate wound care. This may include:

Compression is not suitable for every circulation problem. It should be selected after the blood supply to the leg has been assessed.

Good diabetes care is important for overall health and wound healing. However, improving blood glucose does not always make established necrobiosis lipoidica disappear.

Pain, itching, or burning can also be treated. If the appearance is affecting your confidence or emotional wellbeing, this is a valid reason to discuss further support or treatment choices.

- Gentle cleaning and a suitable non-stick dressing
- Protection from pressure, friction, and further injury
- Treatment of infection when infection is present
- Compression garments or bandages if leg swelling or vein problems contribute

Complications

The main complication is ulceration. The thin central skin can break after a small injury, and the resulting wound may take time to heal. Ulcers can interfere with walking, sleep, work, or clothing choices.

An open wound can become infected. Signs include increasing warmth, swelling, pain, pus, unpleasant odour, or redness that spreads beyond the plaque. Fever or feeling generally unwell may indicate a more significant infection.

Healed or inactive plaques can leave permanent thinning, visible blood vessels, scarring, and changes in skin colour.

Very rarely, a type of skin cancer called squamous cell carcinoma can develop in a long-standing ulcer or scar. Warning changes include a wound that grows, bleeds repeatedly, develops a firm raised edge, or does not heal as expected. Most ulcers do not become cancerous, but persistent changes should be examined.

Prevention

There is no proven way to prevent necrobiosis lipoidica because its exact cause is unknown. Managing diabetes is important for your wider health, but it cannot guarantee that this skin condition will not develop.

If you already have a plaque, protecting the fragile skin may reduce the chance of ulceration. Avoid picking or scratching it, and take care during shaving or activities that could knock the shin. Clothing or shin protection may help during work or sport where repeated injury is likely.

Moisturiser can reduce dryness around intact skin. It should not replace proper wound dressings on an open ulcer.

If you smoke, stopping may support circulation and wound healing. Managing leg swelling and other circulation problems may also help protect the skin, but these steps do not cure the underlying condition.

Living with it and what to expect

Necrobiosis lipoidica often changes slowly. A plaque may enlarge over months and then remain much the same for years. Some lesions flatten and become inactive, but the skin may stay thin or discoloured. Complete clearing can occur, although it cannot be predicted.

Treatment may control inflammation without restoring the skin to its previous appearance. This means colour change or scarring is not always a sign that treatment has failed. A flatter border and no further expansion may indicate that the condition is less active.

Most people can continue their usual work, exercise, and social activities. Protecting the area is useful during activities that place the shins at risk of impact. If a wound develops, temporary changes may be needed to reduce friction and allow dressing care.

Follow-up is often based on how active the condition is. Stable, intact plaques may need only occasional review. Active edges, new lesions, treatment side effects, or ulcers generally need closer follow-up.

You can monitor the area by noting changes in size, pain, surface, or drainage. Photographs

taken in similar lighting can help show gradual change. They do not replace an examination when a lesion becomes painful, breaks down, or changes unexpectedly.

When to get medical help

Arrange a routine appointment if you develop a persistent yellow-brown, red, purple, or shiny plaque, especially on the shin. An assessment is also appropriate if a known plaque is slowly enlarging, becoming uncomfortable, or interfering with daily life.

Seek prompt medical advice if:

Seek urgent medical care if redness spreads quickly beyond the affected area, particularly with fever, chills, worsening pain, or feeling very unwell. These can be signs of a spreading infection.

Call emergency services for severe symptoms such as confusion, collapse, difficulty breathing, or bleeding that does not stop with firm pressure. These are not usual features of necrobiosis lipoidica itself.

- The skin opens or forms an ulcer
- Pain, warmth, swelling, or drainage is increasing
- A wound is not healing as expected
- A plaque repeatedly bleeds or develops a new lump
- You notice medication side effects or marked skin thinning

Common questions

Does necrobiosis lipoidica mean I have diabetes?

No. It is associated with diabetes, but it also occurs in people without diabetes. If you have not recently been tested, a healthcare professional may recommend checking your blood glucose or HbA1c.

Is it the same as diabetic dermopathy?

No. Diabetic dermopathy usually causes small, flat, brown "shin spots." Necrobiosis lipoidica tends to form larger plaques with a raised border and a thin, yellow-brown centre. A physical examination can help tell them apart.

Can necrobiosis lipoidica go away?

Sometimes plaques flatten and become inactive, either with treatment or on their own. However, thinning, scarring, visible blood vessels, or colour changes may remain. Other

plaques persist or become active again.

Is it contagious?

No. It is an inflammatory condition, not an infection that spreads between people. You cannot catch it by touching a plaque or sharing clothing and towels.

Can I exercise with it?

Usually, yes. Exercise does not generally worsen the underlying condition. Protect fragile areas during activities where your shins may be knocked, and seek advice about exercise if you have an open ulcer or significant leg swelling.

Is necrobiosis lipoidica skin cancer?

No. Necrobiosis lipoidica is not cancer. Very rarely, squamous cell carcinoma can develop in a long-standing ulcer. A persistent, growing, bleeding, or unusually raised area should be examined.

Sources

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