CONDITION

Bowen's disease

Learn how Bowen's disease, an early form of squamous cell skin cancer, is recognized, diagnosed, treated, and monitored.

WHAT IT IS
Very early squamous cell skin cancer

BODY SYSTEM
Skin

MAIN SYMPTOMS
Persistent slow-growing patch, scaling or crusting, itching, tenderness

WHAT CAUSES IT
Ultraviolet-related genetic damage, sometimes HPV

HOW IT IS DIAGNOSED
Skin biopsy with microscopic examination

MAIN TREATMENT
Lesion removal or destruction

CAN IT BE CURED?
Yes - treatment usually removes abnormal cells

IS IT AN EMERGENCY?
Sometimes - bleeding that does not stop

LONG-TERM OUTLOOK
Usually very treatable, but recurrence or invasion can occur

Overview

Bowen's disease is a very early form of squamous cell skin cancer. It is also called squamous cell carcinoma in situ . "In situ" means the abnormal cells are limited to the outermost layer of skin, called the epidermis. They have not grown into deeper tissue.

The condition usually appears as a persistent, slow-growing patch of abnormal skin. It most often develops on areas that have had years of sun exposure, such as the lower legs, head, neck, or hands. However, it can occur anywhere, including areas usually covered by clothing.

Bowen's disease matters because it can slowly become an invasive squamous cell carcinoma. Invasive cancer has grown through the outer skin layer and may damage nearby tissue. It can sometimes spread to other parts of the body. Progression happens in a minority of Bowen's disease cases, but treatment or appropriate monitoring is important.

Bowen's disease is usually very treatable. The best approach depends on the patch's size, location, and thickness, as well as the person's overall health, healing ability, and preferences.

Symptoms

Bowen's disease commonly causes one or more flat or slightly raised patches of abnormal skin. A patch may be:

The patch may look similar to eczema, psoriasis, a fungal infection, or another skin condition. Unlike a temporary rash, it usually does not clear on its own. Moisturizers or over-the-counter anti-inflammatory creams may reduce dryness without removing the abnormal cells.

Some patches become thickened or wart-like. Bowen's disease around a nail may resemble a wart or cause changes in the nail. On genital skin, it may appear red, velvety, scaly, or pigmented.

A change does not necessarily mean that the condition has become invasive. However, arrange a prompt medical review if a known or suspected patch develops a firm lump, rapid growth, persistent bleeding, an open sore, or increasing pain. These changes may require another examination or biopsy.

Bowen's disease itself is not usually an emergency. Seek urgent or emergency care for bleeding that does not stop after steady pressure, or for rapidly spreading redness with fever or feeling seriously unwell, particularly after a procedure.

- Red, pink, brown, or darker than the surrounding skin
- Dry, rough, scaly, or crusted
- Clearly outlined with irregular edges
- Slow-growing over months or years
- Itchy, tender, or without any discomfort

Causes and risk factors

Bowen's disease develops when genetic damage causes skin cells called keratinocytes to grow abnormally. In many cases, the damage builds up over time rather than coming from one identifiable event.

Long-term exposure to ultraviolet radiation is a major cause. Ultraviolet radiation comes from sunlight and artificial tanning devices. Damage may appear years after the exposure occurred.

Factors associated with a higher chance of developing Bowen's disease include:

Human papillomavirus, or HPV, is a group of common viruses. HPV is linked to some cases but is not responsible for all Bowen's disease. The skin patch itself is not contagious and cannot be passed to another person through ordinary contact.

Having Bowen's disease does not mean that someone caused it through poor skin care. Sun exposure is important, but the condition can develop on skin that has not been regularly exposed to sunlight.

- Older age and a history of substantial sun exposure
- Skin that burns easily, although people of any skin tone can be affected
- Previous skin cancers or extensive sun-damaged skin
- A weakened immune system, including after an organ transplant or because of certain illnesses or medicines
- Previous radiation treatment to the affected area
- Past exposure to arsenic, which was once present in some medicines and may occur in certain workplaces or contaminated water
- Infection with particular types of human papillomavirus, especially for lesions around the genitals or nails

Diagnosis

A clinician will first examine the patch and ask how long it has been present, whether it has changed, and whether it has been treated before. They may also check the rest of the skin for sun damage or other suspicious areas.

A handheld magnifying device called a dermatoscope can provide a closer view of surface structures and blood vessels. This may help narrow the possibilities, but appearance alone may not confirm the diagnosis.

A skin biopsy is often needed. During a biopsy, the area is numbed with local anesthetic and a small sample, or sometimes the entire patch, is removed. A pathologist then examines the tissue under a microscope. The biopsy can confirm whether abnormal cells are limited to the epidermis and check for invasive cancer.

Conditions that may resemble Bowen's disease include eczema, psoriasis, actinic keratosis, superficial basal cell carcinoma, fungal infection, and some forms of melanoma. A biopsy is especially important when a patch is thick, ulcerated, pigmented, rapidly changing, or uncertain in appearance.

Blood tests and scans are not routinely needed for a typical squamous cell carcinoma in situ. Further testing may be considered if the examination or biopsy suggests that cancer has grown into deeper tissue.

Treatment and management

Treatment is selected for the individual patch rather than by one approach for everyone. A dermatologist or other appropriately trained clinician may consider its size, number, location, border, previous treatment, and biopsy findings. Healing problems, immune suppression, and the importance of preserving nearby tissue also affect the choice.

Surgical excision removes the patch with a border of normal-looking skin. The area is usually numbed, and the wound may be closed with stitches. Excision allows the laboratory to examine the removed tissue and assess its edges. It may not be the best option for every large patch or for sites where wound healing is difficult.

Curettage with cautery involves scraping away abnormal tissue and using heat or electrical energy to destroy remaining cells and control bleeding. It can be useful for selected small lesions. The treated area usually heals gradually as a scab or wound.

Cryotherapy freezes the abnormal cells, usually with liquid nitrogen. The site may sting, blister, form a scab, or temporarily swell. Changes in skin color or scarring can occur. Results depend partly on the lesion and the freezing technique.

Topical fluorouracil , also called 5-FU, is a prescription cream that damages abnormal cells. The area usually becomes red, sore, crusted, or inflamed during treatment. This reaction can be expected, but severe pain, discharge, or other concerning symptoms should be discussed with the prescribing clinician. Treatment length and application instructions must be individualized.

Imiquimod is a prescription cream that activates a local immune response. It is used for selected cases and may be an off-label treatment depending on the country and clinical situation. Redness, crusting, irritation, and flu-like symptoms can occur. It should be used only as directed by the treating clinician.

Photodynamic therapy combines a light-sensitive medicine with a special light source. The medicine is applied to the lesion, allowed time to collect in abnormal cells, and then activated by light. Treatment can be painful while the light is applied. Patients receive instructions about protecting the treated area from bright light for a set period afterward.

Mohs surgery may be considered for selected recurrent, poorly defined, or difficult-to-treat lesions, especially where preserving healthy tissue is important. Thin layers are removed and examined during the procedure until no further cancer cells are seen.

Radiation therapy is less commonly used but may be an option when surgery or other treatments are unsuitable. It requires assessment by a specialist and several factors influence whether it is appropriate.

For some people with major health concerns, limited life expectancy, or a patch in an area that is unlikely to cause problems, careful monitoring may be reasonable. This decision should be made with a clinician because untreated lesions can enlarge or become invasive.

Treatment often causes temporary inflammation or creates a wound that needs time to heal. Patients should receive specific instructions about cleaning, dressings, pain relief, activity, and when to contact the treatment team. Picking at scabs or applying unapproved products can delay healing.

Complications

The main concern is progression to invasive squamous cell carcinoma. This means abnormal cells have crossed into the deeper layer of skin called the dermis. A growing lump, ulcer, repeated bleeding, or increasing tenderness can be a sign of invasion, although these symptoms may have other causes.

Bowen's disease that remains in the epidermis cannot spread to distant organs. Once a lesion becomes invasive, however, it has the potential to grow locally and, in some cases, spread to lymph nodes or other sites. Early review of a changing lesion helps guide timely care.

The condition can return after treatment. Recurrence does not automatically mean that it has become invasive, but the area should be reassessed. A repeat biopsy or a different treatment may be needed.

Treatment may also cause scarring, altered skin color, infection, delayed healing, or discomfort. These risks vary with the method and body site. Lower-leg wounds can be slow to heal, particularly in people with poor circulation or swelling.

Follow up

Follow-up plans vary. A clinician may check whether the treated site has healed, review biopsy results, and look for persistent or recurrent abnormal skin. People with multiple lesions, immune suppression, previous skin cancer, or extensive sun damage may need closer skin surveillance.

Between appointments, check the treated area and the rest of the skin in good light. A mirror or help from another person can make it easier to examine the back, scalp, and backs of the

legs. Arrange a routine appointment for a patch that persists, returns, or slowly changes.

Request a prompt assessment for:

Sun protection may reduce further ultraviolet damage. Useful measures include shade, protective clothing, a broad-spectrum sunscreen used according to its label, and avoiding tanning beds. Sun protection does not treat an existing lesion, so it should not replace follow-up or recommended care.

- A new firm bump within or beside the patch
- Rapid enlargement or marked thickening
- An open sore that does not heal
- Repeated bleeding without clear injury
- New or increasing pain
- A new lump in a nearby lymph-node area

Sources

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