CONDITION

Erythroplasia of queyrat

Erythroplasia of Queyrat is a non-invasive form of penile cancer affecting the glans or inner foreskin.

WHAT IT IS
Non-invasive penile squamous cell carcinoma in situ

BODY SYSTEM
Skin and male genital system

MAIN SYMPTOMS
Persistent red patch, soreness, itching, easy bleeding

WHAT CAUSES IT
Abnormal cells; HPV or chronic inflammation may contribute

HOW IT IS DIAGNOSED
Biopsy examined under a microscope

MAIN TREATMENT
Topical, laser, or tissue-removing treatment

CAN IT BE CURED?
Yes - usually with complete local treatment

IS IT AN EMERGENCY?
Sometimes - heavy bleeding or inability to urinate

LONG-TERM OUTLOOK
Often curable, but recurrence requires long-term checks

Overview

Erythroplasia of Queyrat is an early, non-invasive form of squamous cell carcinoma. Squamous cells are flat cells that cover the skin and moist surfaces of the body. "Non-invasive" means the abnormal cells remain in the surface layer and have not grown into deeper tissue.

It usually appears on the glans, or head of the penis, or beneath the foreskin. The modern medical term is penile intraepithelial neoplasia , often shortened to PeIN. It may also be described as squamous cell carcinoma in situ.

The condition matters because it can continue to grow, return after treatment, or become invasive penile cancer. This does not happen in every case. Detecting and treating the abnormal area before it reaches deeper tissue usually allows less extensive treatment.

Several harmless or inflammatory conditions can produce a similar red patch. These include balanitis, psoriasis and fungal infection. Appearance alone cannot confirm erythroplasia of Queyrat, so a biopsy is normally needed.

Symptoms

The usual sign is a persistent red patch on the glans or inner foreskin. The patch may look shiny, moist, smooth or velvety. It often has a clear border and may slowly become larger.

Other possible features include:

Some patches cause no discomfort. Lack of pain does not show whether a penile skin change is harmless.

A thickened area, a lump, a deep ulcer or ongoing bleeding may suggest that abnormal cells have reached deeper tissue. These changes need prompt assessment, but they do not confirm invasive cancer by themselves.

- Itching, burning or tenderness
- Flaking, crusting or a shallow raw area
- Bleeding after rubbing, washing or sexual activity
- Discharge or an unpleasant smell
- Difficulty pulling back the foreskin

Causes and risk factors

Erythroplasia of Queyrat develops when squamous cells acquire changes that make them grow abnormally. There is not always one identifiable cause.

Some cases are associated with high-risk types of human papillomavirus, or HPV. HPV is a common virus passed through close skin-to-skin sexual contact. It can remain unnoticed for years. Finding an HPV-related lesion does not show when the virus was acquired or from whom.

Other cases appear to develop through a pathway linked to long-term inflammation or skin conditions, particularly genital lichen sclerosus. Lichen sclerosus can cause pale, fragile or scarred genital skin.

Factors associated with a higher risk include:

Having one or more risk factors does not mean you will develop the condition. It can also occur

without an obvious risk factor.

- A foreskin that cannot be pulled back, called phimosis
- Long-lasting inflammation beneath the foreskin
- Smoking
- A weakened immune system
- Previous penile intraepithelial neoplasia or penile cancer
- Certain chronic inflammatory penile skin conditions

Diagnosis

A clinician will examine the patch and the surrounding genital skin. They may also feel the groin for enlarged lymph nodes. These steps help assess the area, but they cannot confirm the diagnosis.

Confirmation requires a biopsy . During a biopsy, a small piece of the abnormal skin is removed, usually after numbing the area with local anaesthetic. A pathologist then examines the sample under a microscope.

The biopsy can show whether abnormal cells are limited to the surface or have entered deeper tissue. A deeper or additional sample may be needed if the patch is thick, ulcerated or otherwise concerning for invasion.

Tests for HPV may sometimes provide extra information, but an HPV test is not usually what confirms erythroplasia of Queyrat. Scans are not normally required for a small, confirmed non-invasive lesion. They may be considered if examination or biopsy suggests invasive cancer.

Tell the clinician about any treatments already used on the patch. Steroid like prednisone or hydrocortisone , antifungal or other creams can change its appearance without treating abnormal cells.

Treatment and management

Treatment aims to remove or destroy all abnormal cells while preserving the appearance and function of the penis as much as possible. The best approach is influenced by the patch's size, position and depth, whether it has returned, and the biopsy findings.

Possible treatments include:

Treatment should be supervised by a urology, dermatology or penile cancer specialist. A patch that does not respond as expected may need another biopsy rather than repeated treatment without reassessment.

More extensive surgery may be necessary if biopsy shows invasive cancer. This is a different situation from confirmed erythroplasia of Queyrat, which remains within the surface layer.

Follow-up examinations are important after any treatment. They allow the treated site and the rest of the penis to be checked for persistent, recurrent or new abnormal areas.

- Circumcision: Removing the foreskin may treat a lesion confined to the foreskin. It also exposes the glans for examination and treatment.
- Topical treatment: Medicines such as imiquimod or fluorouracil may be applied to selected superficial lesions. These can cause marked redness, soreness, erosion or crusting during treatment.
- Laser treatment: A laser can destroy abnormal surface tissue. Healing and pigment changes may follow, and the condition can return.
- Surgical removal: The patch may be cut out with a margin of nearby tissue. Techniques include local excision, glans resurfacing and, in selected settings, Mohs surgery.
- Radiotherapy: Radiation treatment may be considered in particular cases, although it is not the usual choice for every superficial lesion.

Complications

The main concern is progression to invasive squamous cell cancer. Invasive cancer grows below the surface and may require more extensive treatment. Early assessment of a persistent penile patch helps reduce the chance of delayed diagnosis.

The condition can also return after apparently successful treatment. Recurrence may occur at the original site or as a new lesion elsewhere on the penis.

Treatment effects can include pain during healing, scarring, altered skin colour or sensitivity, and changes in sexual comfort. Larger procedures can affect appearance, urinary flow or sexual function. The likely effects should be explained before treatment.

Worry, embarrassment and changes in body confidence are also common concerns. Psychological or sexual-health support can be part of care.

Prevention

Erythroplasia of Queyrat cannot always be prevented. Some people develop it without a known avoidable cause.

HPV vaccination reduces the risk of infection with HPV types linked to several genital cancers and precancerous changes. It cannot treat an existing patch, and it does not protect against every cause of penile intraepithelial neoplasia.

Condoms can lower HPV transmission during sexual contact, but they do not cover all genital skin and therefore do not provide complete protection.

Not smoking may reduce risk and supports healing. If you have phimosis, lichen sclerosus or repeated inflammation beneath the foreskin, appropriate medical care can help protect the skin and make persistent changes easier to detect.

Gentle washing is enough for routine hygiene. Vigorous scrubbing, antiseptics and fragranced products may irritate genital skin.

Living with it and what to expect

Many people can be treated with an approach that preserves the penis and its function. Healing may take several weeks, depending on the treatment and the size of the area. Topical treatment can make the patch look more inflamed before it improves.

The condition may return months or years later, so follow-up does not end when the skin first appears healed. Appointments usually involve inspection of the treatment site and surrounding skin. The follow-up schedule is based on the treatment and biopsy findings.

Between visits, become familiar with the usual appearance of your skin. Report a new or returning red patch, thickening, ulcer, bleeding area or lump. This is useful awareness rather than a substitute for follow-up examinations.

Sex may need to be avoided while the area is raw or healing. After healing, many people retain normal urinary and sexual function, but this cannot be guaranteed. The outcome is affected by the lesion's extent and the treatment required.

Erythroplasia of Queyrat itself is not passed between partners. If HPV contributed to it, the virus can be transmitted through intimate skin contact. HPV may have been present for a long time, so its detection should not be taken as evidence of recent sexual contact.

When to get medical help

Arrange a prompt, non-emergency appointment if you notice a red, raw or scaly penile patch

that persists, keeps returning or does not improve as expected. You should also seek assessment for unexplained bleeding, a sore that does not heal, thickening, a new lump, or difficulty pulling back the foreskin.

If you have already been treated, contact your care team before the next routine visit if the patch returns or a new abnormal area appears. Keep planned follow-up appointments even when the skin looks normal.

Seek urgent medical care if you develop:

Heavy bleeding that does not stop with gentle pressure, or an inability to pass urine, requires emergency care.

- Rapidly worsening swelling with fever or severe pain
- Pus, spreading redness or other signs of a significant infection
- A foreskin trapped behind the glans and unable to move forward
- Increasing difficulty passing urine

Common questions

Is erythroplasia of Queyrat cancer?

It is squamous cell carcinoma in situ, meaning cancerous cells are present but remain in the surface layer. It is not the same as invasive penile cancer. Treatment is important because the cells can persist, return or eventually grow into deeper tissue.

Can a red patch on the penis be something else?

Yes. Balanitis, fungal infection, psoriasis, eczema, lichen planus and other inflammatory conditions can look similar. Because appearance is not reliable enough to separate these conditions, a persistent patch may need a biopsy.

Will I need part of my penis removed?

Not necessarily. Many non-invasive lesions can be treated with topical medicine, laser, local surgery, circumcision or glans resurfacing. More extensive surgery is generally considered when a lesion is extensive, keeps returning, or has become invasive.

Can erythroplasia of Queyrat come back after treatment?

Yes. Abnormal cells can remain at the edge of a treated area, or a new lesion can develop later. This is why ongoing examinations and reporting new skin changes are important.

Is it caused by poor hygiene?

No single explanation applies to everyone. Long-term inflammation beneath a tight foreskin

may contribute in some cases, but the condition is not proof of poor hygiene. HPV, smoking, immune suppression and chronic skin conditions may also play a role.

Can I have sex during treatment?

This depends on how the area is being treated and whether the skin is sore or broken. Sexual contact can irritate healing tissue, and topical medicines should not be transferred to a partner. Follow the treatment team's advice about when sexual activity can safely resume.

Sources

- European Association of Urology. EAU Guidelines on Penile Cancer . Sections on penile intraepithelial neoplasia, diagnosis, treatment and follow-up.
- ESMO-EURACAN. Penile cancer: Clinical Practice Guideline for diagnosis, treatment and follow-up . ESMO Open, 2024.
- National Cancer Institute. Penile Cancer Treatment (PDQ)-Health Professional Version . Section on stage 0 penile cancer.
- DermNet New Zealand. Penile intraepithelial neoplasia . Clinical overview of presentation, risk factors, diagnosis and treatment.
- National Health Service. Penile cancer . Patient information on symptoms, assessment and treatment.