



PRACTICE

10-MINUTE CONSULTATION

Bowen's disease

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What you need to know

- Bowen's disease is a slow growing, precancerous dermatosis and a precursor to squamous cell carcinoma
- Multiple therapeutic options mean management can be individualised depending on the number, size, and site of lesions
- Prognosis is excellent with high cure rates

A 68 year old woman with skin type 1 presents with an 18 month history of a well circumscribed 10 mm erythematous scaly patch over her left shin. Since retirement, she has lived in Spain for part of the year and has now returned to the UK, worried that the patch has increased in size.

In Bowen's disease the full thickness of the epidermis is dysplastic with atypical keratinocytes, but these have not yet breached the basement membrane to become a squamous cell carcinoma. Reflecting this, Bowen's disease is also commonly known as squamous cell carcinoma in situ and as intraepidermal or intraepithelial carcinoma. Historically, progression of Bowen's disease to squamous cell carcinoma was believed to be 3-5%.¹ However, a 2017 study suggested that it may be much higher, with 16.3% of 566 cases of biopsy-proven Bowen's disease found to have squamous cell carcinoma when treated surgically.²

This article outlines the assessment and management of Bowen's disease in a primary care setting. Rarer variants of Bowen's disease may present as pigmented plaques, nail dystrophy or discolouration, or patches and plaques in the genitalia, but this article focuses on the common presentation likely to be seen in primary care.

How this article was made

We conducted a literature review of articles and guidelines, reviewed dermatology textbooks, and sought expert advice from general practitioners and consultant dermatologists regarding Bowen's disease.

What you should cover

The classic presentation of Bowen's disease is of an asymptomatic, well circumscribed, solitary, erythematous patch or plaque on a sun-exposed site (typically head, neck, or limb), usually 10-15 mm in diameter that has been slowly growing (fig 1). Longstanding lesions can attain more than 2 cm in size through lateral spread. The surface can be dry, scaly, hyperkeratotic, or fissured with irregular borders. Ulceration, bleeding, pain, or nodule formation should arouse suspicion of progression to squamous cell carcinoma.

History

Most patients will be over 60 years old with skin type 1 or 2. The distal legs are more commonly affected in women than in men.³ Other relevant risk factors include exposure to ultraviolet light (ultraviolet), immunosuppression, and carcinogens.

Ask about rate of growth. Bowen's disease will tend to grow slowly over months and years, whereas changes in an squamous cell carcinoma tend to occur over weeks and months.

Persistent itching may indicate an inflammatory process such as eczema or psoriasis. Ask about scalp or nail changes and any previous skin conditions as clues to other potential differentials.

Examination

Best standard practice is to examine the whole skin surface (scalp, nails, and genitalia), but this may not be practical in a busy primary care setting. We recommend a focused skin examination on the lesion(s) and sun-exposed sites, with advice to the patient to self examine at home as appropriate.

Note the patient's skin type. Skin types 1 and 2 (which burn more than tan after sun exposure) tend to be prone to developing chronic ultraviolet sun damage (with changes such as freckling, lentiginosities, or solar elastosis).

Site-specific examination includes:

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- General condition of the skin. Is it dry or sun damaged? If the lesion is on the legs, is there evidence of varicose changes? These may indicate poor healing and influence treatment choices.
- The site, size, and colour of the lesion.
- Surface characteristics. Evidence or not of central clearing scale, crust, bleeding, lichenification. Features of edges: pearly or raised (may be suggestive of a basal cell carcinoma). Are there signs of excoriation?
- On palpation is there any tenderness or nodularity?

Where a teledermatology service is available, dermoscopic images may be sent for review by a dermatologist.⁴ As keratinocyte dysplasia is a spectrum, the dermoscopic features are to be combined with the clinical index of suspicion. The dermoscopic features are shown in [figure 2](#).

What you should do

Consider the differential diagnoses listed in [figure 3](#). A clinical diagnosis of Bowen's disease can be made in primary care when an indolent, well demarcated, erythematous, scaly patch or plaque is detected on a sun-exposed site in a person with skin type 1 or 2. Ask for a second opinion if diagnostic doubt exists or arrange for a (punch) skin biopsy. If a confident diagnosis can be made, several treatment options are available in primary care. The choice will depend upon the number, site, size, and thickness of the lesions, other comorbidities, and patient preference.

When considering no treatment, explain that studies suggest that 3-16% of high risk lesions may have changes of squamous cell carcinoma present within them—high risk lesions are on the ear, nose, lip, or eyelid or have a diameter of over 10 mm.² Explain the various treatment options depending on the site and size of the lesion and the general health and circumstances of the patient. Healing and clearance rates vary with body site and general health. Offer general advice on ultraviolet protection and vitamin D supplementation.

Treatment options

Consider observation and emollients for frail patients with multiple comorbidities and slowly progressive thin lesions, especially on body sites with poor wound healing (such as the distal legs).

Cryotherapy—Consider cryotherapy in low risk situations for patients with a solitary Bowen's lesion who prefer to avoid more time consuming topical treatment. It is simple, quick, and inexpensive. Our practice is to freeze the lesion with two freeze-thaw cycles of 10-15 seconds. Avoid cryotherapy on the distal legs as it increases the risk of ulceration. Other side effects include pain, blistering, and hypopigmented scarring. Clearance rates vary with clinician and treatment regimen.⁵

5-fluorouracil—Widely available in the UK, 5-fluorouracil 5% cream is licensed for use in Bowen's disease.¹ Typically, the cream is prescribed for twice daily use for three to four weeks. One large European study demonstrated around 83% clearance rates with a once daily regimen for one week and then twice daily for three weeks.⁵ Offer counselling before prescribing 5-fluorouracil, as the side effects of erythema, soreness, and crusting may be bothersome, especially on the head and neck regions. Offer a patient information leaflet. Consider longer and lower frequency regimens for patients with distal leg Bowen's disease who are frail or have thin skin, to reduce the chances of ulcer formation. We start with twice weekly applications and

increase the frequency every two weeks to every other night, then every day, and then twice a day. If bright erythema and soreness develop the frequency is reduced.

Curettage and cautery is one of the simplest, least expensive, safest, and most effective treatments.⁶ Success is operator dependant with variable recurrence rates of between 2% and 20%.⁷ In a comparative study, clearance rates three months after treatment were 93% for curettage and cautery, 87% for 5-fluorouracil, and 61% for cryotherapy.⁸

Excision—Consider excision for solitary plaques of ≤ 15 mm diameter. This is simple and effective if location, healing, and cosmesis are considered suitable. It offers the added potential benefits of requesting histology, discovering invasion, and achieving complete removal. Distal leg excisions may be associated with higher morbidity. Recurrence rates depend on excision margins and are reported to be 5% over one to five years.¹

Follow-up and referral

Follow-up depends on treatment. For patients choosing topical therapy or cryotherapy, a four to six month follow-up is advisable to ensure clearance. Advise patients to return sooner if the lesion recurs or the site becomes lumpy, bleeds, or painful. If treatment has not helped, ask the patient to explain how they used it. Understanding why a treatment wasn't used as prescribed can inform further treatment options. Reconsider the diagnosis if the treatments prescribed have not been effective. [Box 1](#) summarises when to refer. Additional treatment options available in secondary care are outlined in [box 2](#).

Box 1: When to refer

- High risk area*—Lesion on head and neck, nail, or genitalia
- High risk patient*—Immunocompromised or multiple skin cancers
- Poor response to treatment or recurrence*
- Diagnostic dilemma*

Box 2: Secondary care treatment

- Imiquimod 5% cream*—Unlicensed use, if other treatment options unsuitable
- Photodynamic therapy*—For larger or multiple lesions on legs
- Mohs micrographic surgery*—For high risk sites (facial, digital, or penile lesions)
- Radiotherapy*—If surgery is unsuitable

Education into practice

- How much of the skin do you examine when a patient presents with a skin lesion?
- When you last saw a patient with an evolving erythematous plaque, how did you explore the patient's risk of skin malignancy?

How patients were involved in the creation of this article

No patients were involved in the writing of this article.

Competing interests: We have read and understood *BMJ* policy on declaration of interests and have no relevant interests to declare.

Patient consent: Patient consent obtained.

Provenance and peer review: Commissioned, based on an idea from the author; externally peer reviewed.

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Figures

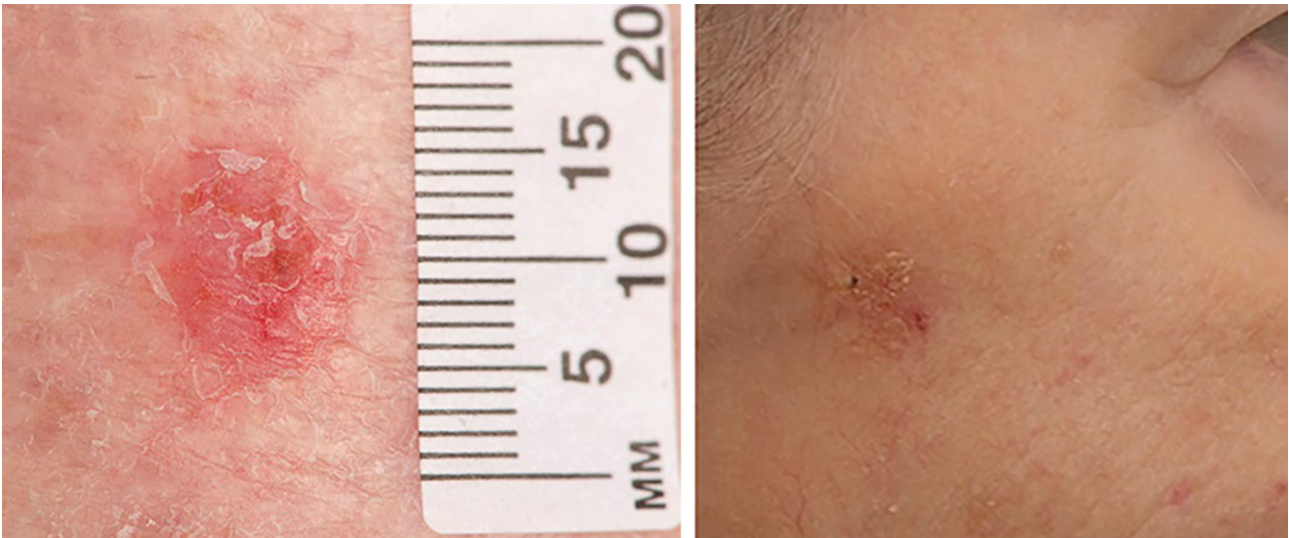


Fig 1 Bowen's disease demonstrating (left) a 10 mm solitary, annular, well defined, erythematous, scaly patch on the shin; (right) an irregular, hyperkeratotic patch on the right side of face.

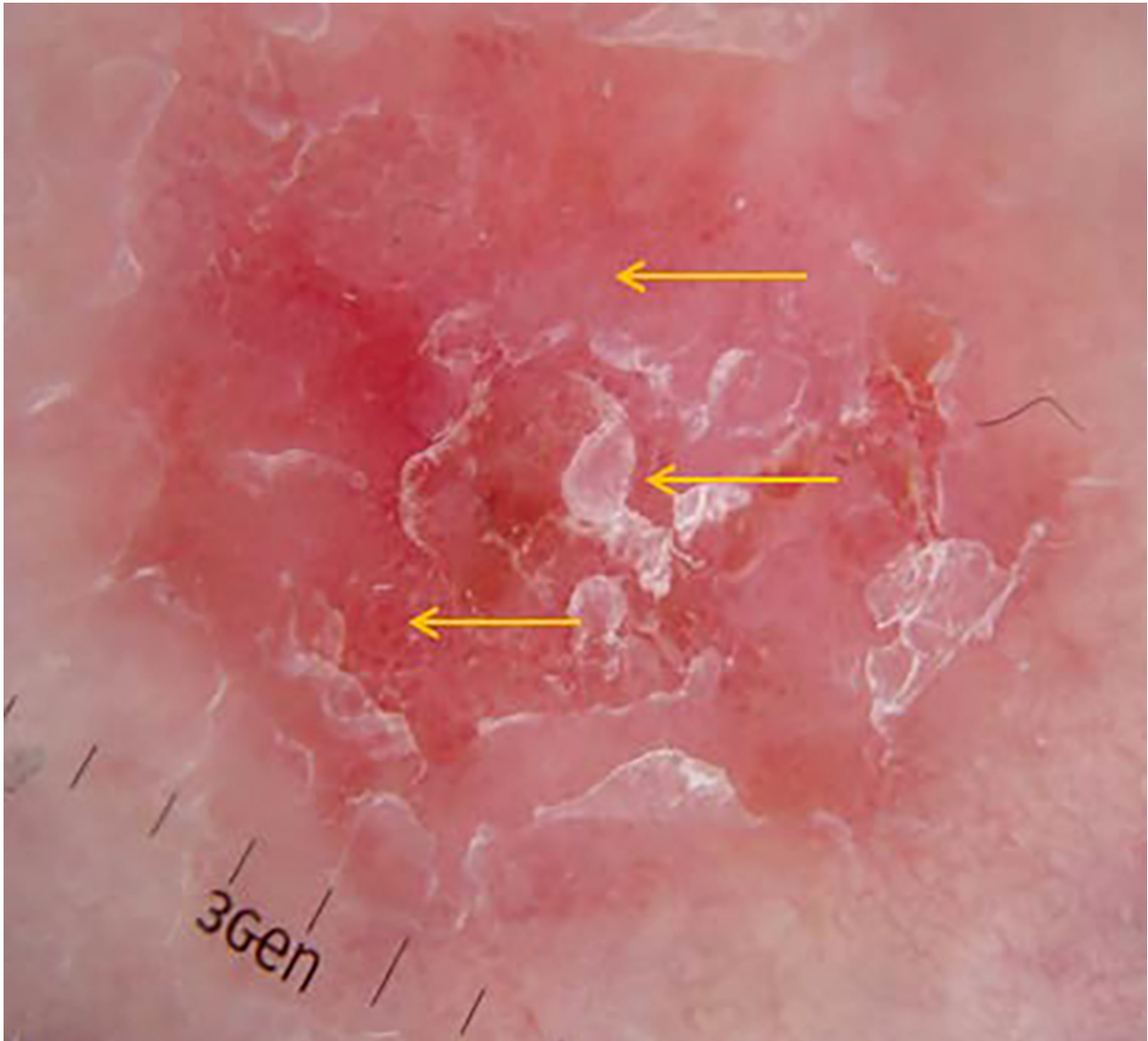


Fig 2 Dermoscopic features of Bowen's disease are dotted and glomerular vessel appearance (bottom arrow), erythema and scale (middle arrow), with a structureless pink-white background (top arrow)

Diagnosis

Squamous cell carcinoma



Key features

- Rapidly growing, tender, hyperkeratotic, ulcerating lesion
- Sun-exposed sites or sites of chronic ulceration

Actinic keratosis



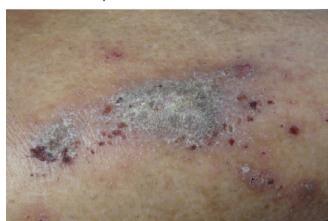
- Discrete or confluent patches of erythema and scaling or hyperkeratosis
- Predominantly on sun-exposed skin

Discoid eczema



- Excoriated patches
- Usually on limbs
- Bilateral and asymmetrical
- Serous discharge if acute

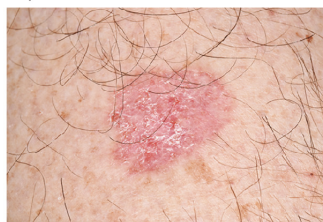
Lichen simplex



- Dry, scaly, excoriated patches with follicular prominence
- Often solitary and unilateral
- Usually affecting patient's dominant side
- Check back of scalp and neck, genitalia, wrists, forearms, and legs

Diagnosis

Superficial basal cell carcinoma



Key features

- Slightly scaly, irregular, shiny, erythematous plaque
- Thin, translucent, rolled border, in contrast with Bowen's disease
- Dermatoscopy may show "arborising telangiectasia"

Plaque psoriasis



- Well demarcated, multiple patches or plaques with scale on extensor surfaces
- Check scalp, nails, and flexures for clues
- Often a family history

Tinea corporis



- Red and inflamed with pustules if acute, or dry and scaly with central clearing when chronic
- Look for nail changes, skin folds, and intertriginous areas for clues

Lichen planus



- Pruritic, purplish, polygonal, papules, plaques (the "5 Ps")
- Check scalp for scarring alopecia, nails for dystrophy or pterygium, oral mucosa for Wickham's striae, and genitalia
- Any recent medication changes? Such as NSAIDs, thiazide diuretics, antihypertensives

Fig 3 Differential diagnoses of an erythematous scaly patch or plaque and key features