MedicineToday 2011; 12(6): 27-38

PEER REVIEWED FEATURE
POINTS: 2 CPD/2 PDP

Male genital dermatology

beyond sexually acquired diseases

ANTHONY P. HALL MB BS, DipRACOG, DipVen, FRACGP, FACD

Most common diseases of male genitalia are not sexually transmissible infections (STIs) or cancer, although some are precursors for invasive carcinoma. Diseases to look out for include lichen sclerosus and genital *in situ* squamous cell carcinoma.

Key points

- **Most diseases of male genitalia are common inflammatory skin diseases.**
- **Although dermatitis (eczema) and psoriasis are the most common genital skin diseases, male patients are often fearful of a sexually transmissible infection (STI) or cancer.**
- **An incorrect diagnosis of an STI leads to inappropriate treatment and unnecessary distress.**
- **Lichen sclerosus is the most important inflammatory disease causing phimosis with a small lifetime risk of penile carcinoma.**
- **Genital *in situ* squamous cell carcinoma (SCC) has three clinical variants with different risks of transformation to invasive SCC.**
- **Genital melanotic macules can be confused with melanoma.**
- **Red burning scrotum syndrome is an under-recognised distressing disorder.**

Diseases of male genitalia are often poorly recognised and managed. Making the correct diagnosis is fundamental in helping a patient with genital disease as many patients fear sexually transmissible infections (STIs) and cancer. Treating doctors need to know normal anatomy, common variants of male genital anatomy and the range of common inflammatory dermatoses presenting on genitalia. It is essential to identify appropriate investigations and have the skill to perform a genital skin biopsy if a malignancy is suspected.

CLINICAL HISTORY AND EXAMINATION

It is important to allow a patient with genital skin disease to tell their story uninterrupted. Both current and previous treatments should be noted as patients may have tried many topical preparations. Whether the patient is currently sexually active and the number and sex of partners needs to be established. Previous STIs should be noted. Finally, if not volunteered, fears of an underlying STI or cancer should be enquired about.

Clinical examination should minimise patient embarrassment. The presence or absence of the foreskin should be noted and the perianal region checked. A brief examination of the patient's scalp, mouth, nails, elbows and knees will provide diagnostic clues. Uncircumcised men experience more genital disease and have greater difficulty detecting diseases of the glans and foreskin.

DIAGNOSTIC TESTS

The diagnosis of genital skin disease is primarily clinical, supplemented by histopathology

Dr Hall is the Dermatologist at the Male Genital Dermatology Clinic, Skin & Cancer Foundation (Vic); Dermatologist at Barwon Health, Geelong; and Senior Lecturer at Deakin University, Geelong, Vic.

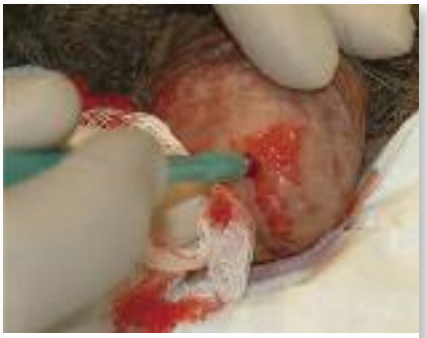


Figure 1. Punch biopsy of the glans penis under local anaesthesia (with patient supine).

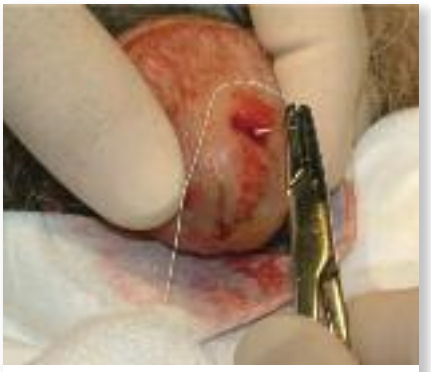


Figure 2. Punch biopsy site sutured with absorbable suture.

when needed. If either a malignant or a premalignant disease is suspected, a genital skin biopsy should always be performed. Skin biopsy is less helpful in differentiating genital inflammatory skin diseases.

Skin biopsy

Taking a genital skin biopsy is similar to taking a skin biopsy at other sites. The main difficulty is the patient's apprehension. Taking a skin biopsy is made easier by:

- reassuring the patient that pain is minimal
- projecting confidence
- asking the patient to lie down
- injecting local anaesthetic slowly
- pausing a few minutes before using a disposable punch (Figure 1)
- suturing the site (Figure 2).

Other diagnostic tests

If ulcerative disease is present a swab for herpes simplex virus (HSV) polymerase chain reaction (PCR) should be taken. If the patient has a penile discharge or dysuria, a urethral swab or urine sample should be taken for PCR testing to exclude gonorrhoea or chlamydia infection.

As different STIs may coexist, opportunistic screening for other STIs (such as hepatitis B, hepatitis C and syphilis) should be performed. The risk of human immunodeficiency virus (HIV) infection should be discussed. Female partners of male patients with any human papilloma virus (HPV) associated genital disease should have cervical cytology (Pap test).

NORMAL MALE ANATOMY AND VARIANTS

Knowing normal anatomy and variants of male genital anatomy is essential (Figure 3). Without adequate knowledge and experience, it can be difficult to interpret the appearance of the preputial recess under the foreskin in uncircumcised males (Figure 4).

Younger males are more likely to present with concerns about the appearance of the genitalia. Benign variants that can cause concern are pearly penile papules, Fordyce spots and angiokeratomas of Fordyce.

Pearly penile papules are common, occurring in single or double rows around the corona of the glans, and are sometimes misdiagnosed as warts (Figure 5). Fordyce spots are ectopic sebaceous glands appearing as small white- or cream-coloured submucosal papules on the foreskin or penile shaft of pubertal males (Figure 5). Fordyce spots can cause concern about possible genital warts but are quite innocent.

The preferred treatment for these normal variants of appearance is reassurance. Some patients insist on treatment, which is unwise in anxious individuals with benign disease.

Angiokeratomas of Fordyce of the scrotum present as purple papules on the

Figure 3. Normal appearance of the circumcised penis. The circumcision line demarcates the normal skin of the penile shaft from previously unkeratinised skin of the preputial recess.

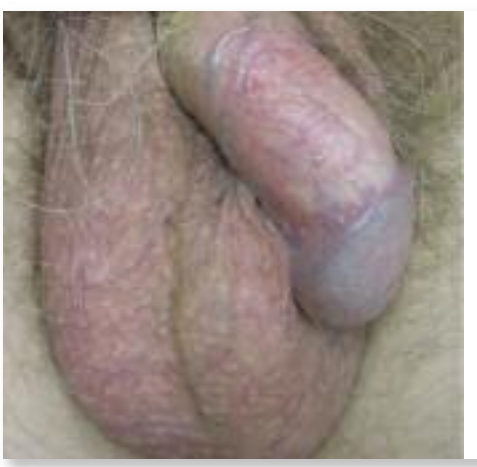


Figure 4. Uncircumcised penis with the foreskin retracted. The mucosa of the preputial recess is translucent with superficial veins easily seen. This normal appearance may be confused with prolonged topical corticosteroid use.

Figure 5. Pearly penile papules on corona of glans penis with Fordyce spots on the retracted foreskin of an adolescent male.

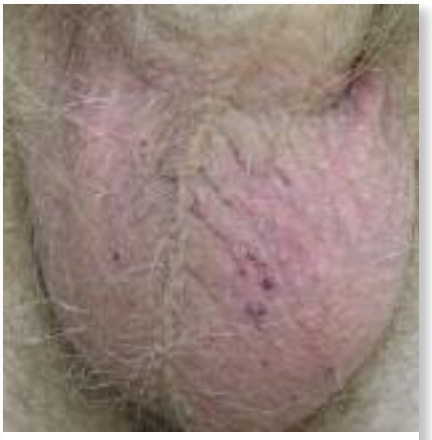


Figure 6. Angiokeratomas of Fordyce of the scrotum.

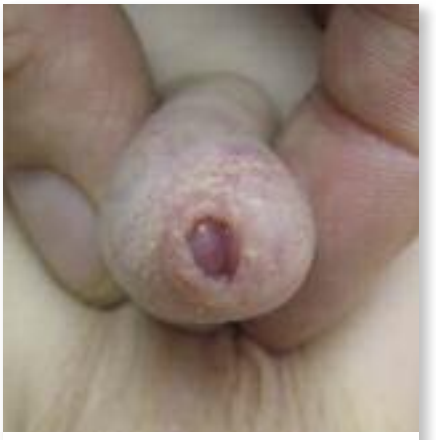


Figure 7. Inability to retract the foreskin is normal in most neonatal boys.

scrotum. It is solely a cutaneous disease without systemic involvement (Figure 6). Bleeding can be treated with diathermy. Benign angiokeratomas of Fordyce need to be differentiated from those seen in Fabry's disease (angiokeratoma corporis diffusum), a rare inherited disease with cardiovascular, neurological and renal involvement with a reduced life expectancy. The angiokeratomas in Fabry's disease extend beyond the genital region onto the anterior abdomen and adjacent thighs.

Although the foreskin can easily be retracted in only 15% of boys aged 6 months (Figure 7), this rises to 80 to 90% by 3 years of age. The most common cause of acquired phimosis in adult males is lichen sclerosus.

COMMON DERMATOSES

Common dermatoses of male genital skin provide the greatest difficulty in diagnosis and management. An empirical approach to management is often taken without a diagnosis.

Commonly, treatment is commenced with a topical corticosteroid or imidazole cream (or combination of both) and observation of the response. Fortunately, empirical treatment is often beneficial in genital inflammatory dermatoses. If the condition fails to improve, referral of the patient to a dermatologist is necessary for a correct diagnosis and appropriate treatment.

Dermatitis

Dermatitis (or eczema) is the most common inflammatory dermatosis and the most common genital skin disease. The important eczemas involving genital skin are atopic dermatitis, irritant dermatitis and lichen simplex chronicus.

Types

Atopic dermatitis

Atopic dermatitis of the genitalia usually exists in the presence of atopic dermatitis at other body sites. Allergic contact dermatitis is uncommon, caused by direct application of an allergen or accidental transfer by hand.

Figure 8. Irritant (contact) dermatitis shows nonspecific fine scaling and mild erythema.

Irritant dermatitis

Irritant dermatitis of genital skin is poorly recognised by most doctors (Figure 8), despite infant napkin dermatitis (a form of irritant dermatitis) being well recognised. Genital skin is easily inflamed by nonspecific irritants such as soap, sweat, humidity and friction, especially on a background of atopic dermatitis. Itch and irritation are the main symptoms of dermatitis, sometimes causing sleep

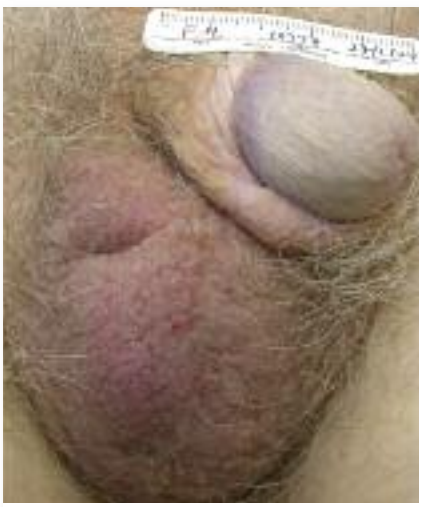


Figure 9. Localised thickened scrotal skin due to chronic rubbing (lichen simplex chronicus).

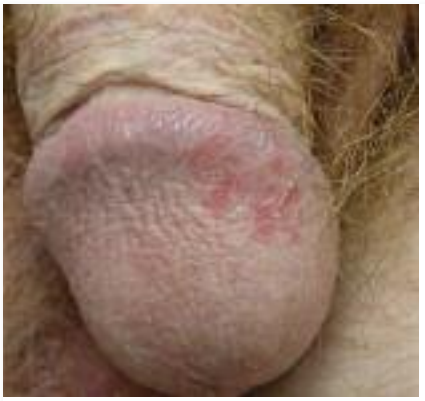


Figure 10. Psoriasis on glans penis in circumcised male shows fine scale.

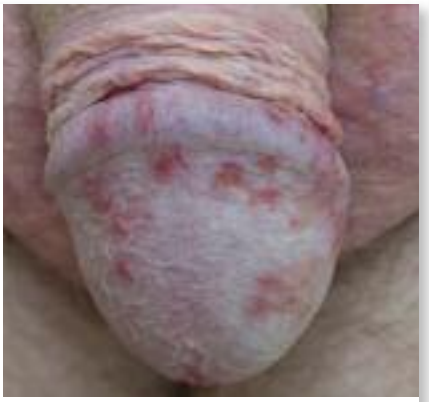


Figure 11. Absence of scale on glans penis of an uncircumcised male with psoriasis.

Figure 12. Psoriasis as confluent redness of glans and foreskin (balanoposthitis).

Figure 13. More typical well-defined psoriasis of the penile shaft and scrotum with white scale.

disturbance that may be aggravated by fear of an STI or cancer.

Lichen simplex chronicus

Chronic rubbing over years, with more persistent dermatitis, leads to localised thickening of the scrotum (lichen simplex chronicus), with a papular appearance rather than parallel horizontal lines of lichenification at other body sites (Figure 9).

Management

Management of dermatitis includes reducing irritant factors by using a nonsoap wash, regular use of a moisturiser and wearing cotton underwear. Allergic contact dermatitis must be confirmed by patch testing as allergen avoidance is essential.

Use of a low potency topical corticosteroid (e.g. hydrocortisone 1%) is wisest as more potent corticosteroids may cause striae with prolonged use. Cautious use of a moderate strength corticosteroid cream (e.g. methylprednisolone aceponate 0.1%) for short periods is necessary for chronic, resistant dermatitis. More potent topical corticosteroids (e.g. betamethasone valerate 0.05% or betamethasone dipropionate 0.05%) should be avoided.

An alternative to using a topical corticosteroid is the topical calcineurin-inhibitor pimecrolimus. Topical pimecrolimus may be irritating to anogenital skin but may be useful for patients concerned about the use of topical costicosteroids.

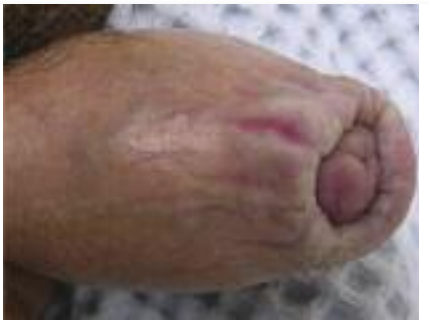
The treatment of dermatitis is often frustrated by misinformation and fear of use of topical corticosteroids by patients, pharmacists and doctors alike. Short-term use of a low potency topical corticosteroid (such as hydrocortisone 1%) has stood the test of time and is relatively safe. Long-term use can be avoided by prescribing limited quantities of topical corticosteroids. Most dermatologists see far more problems of under-usage with use of weak topical corticosteroids and poor clinical response compared with an over-usage. Specialist referral to a dermatologist is necessary for dermatitis that is more resistant to treatment.

Intralesional corticosteroids are occasionally needed for nodular prurigo (a form of eczema) and postscabetic nodules.

Psoriasis

Psoriasis is a common genetic disease affecting 2% of the population, and is more common in Caucasians. Chronic plaque psoriasis exhibits symmetrical scaly plaques over the elbows, knees, scalp and natal cleft. Itch affects up to 80% of patients, with other important issues being the appearance, scaling and even tenderness and pain.

Genital psoriasis may occur as slightly scaly red spots on the glans penis (Figure 10) but lacks scale if the patient is uncircumcised (Figure 11). Genital psoriasis may appear as confluent redness of the glans and inner foreskin (balanoposthitis) if the patient is uncircumcised, similar to psoriasis of the natal cleft (Figure 12). Psoriasis of the penile shaft or scrotum shows more typical, well-defined, scaly plaques (Figure 13).



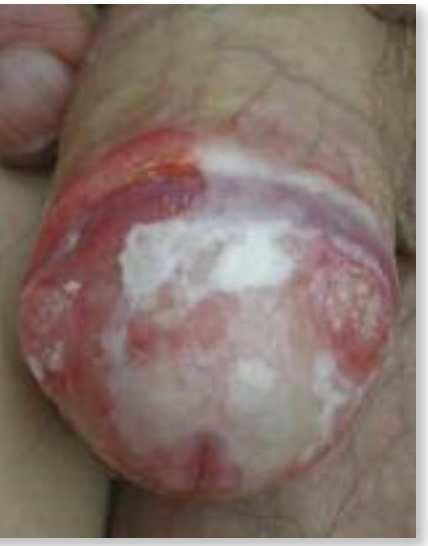


Figure 14 (left). Lichen sclerosus producing whitening and thickening of the glans and mucosal aspect of the foreskin.

Figure 15 (middle). Severe phimosis with lichen sclerosus ('balanitis xerotica obliterans').

Figure 16 (right). Squamous cell carcinoma of glans penis appearing four years after circumcision for phimosis due to lichen sclerosus.

The psychosocial impact of psoriasis and its impact on sexuality are often underestimated by health professionals. The association with arthritis is often unrecognised with 15% of patients developing psoriatic arthropathy.

Psoriasis is best considered a systemic disease with a higher risk of metabolic syndrome, cardiovascular disease and early death. Psoriasis of the glans needs to be differentiated from *in situ* squamous cell carcinoma (SCC), lichen planus, lichen sclerosus and Zoon's balanitis. These patients should be referred for a specialist dermatologist opinion.

Genital psoriasis is usually responsive to a moderately potent corticosteroid (e.g. betamethasone dipropionate 0.05%) applied for two weeks, following with a less potent corticosteroid (e.g. hydrocortisone 1%). Topical tar, dithranol (anthralin) and calcipotriol should not be used on genital skin because of the likelihood of irritation. A poor response to treatment should lead to specialist referral.

Lichen sclerosus

Lichen sclerosus is an idiopathic, scarring, inflammatory anogenital disease. It can present in infancy, puberty or later, causing thickening and whitening of the glans or foreskin (Figure 14). Telangiectases and purpura may be seen on the glans or foreskin of patients with lichen sclerosis, increasing fear of a cancer.

Lichen sclerosus can cause phimosis in adulthood, resulting in difficulty with erection and voiding (Figure 15). Voiding difficulties may be complicated by stenosis of the penile urethra. Phimosis due to lichen sclerosus is sometimes called 'balanitis xerotica obliterans'. Lichen sclerosus occasionally occurs at extragenital sites but is rare in the perianal region in males (unlike with female patients).

Lichen sclerosus is a premalignant disease, with between 5.8% and 8.4% of males with penile lichen sclerosus showing premalignant or malignant disease.[1,2] Evidence of lichen sclerosus is seen in 50% of patients with SCC of the penis.[3,4] Penile SCC has occurred even years after circumcision for lichen sclerosus (Figure 16). Clinical diagnosis of lichen sclerosus is confirmed with histopathology.

Treatment of lichen sclerosus should begin with a more potent topical corticosteroid (e.g. betamethasone dipropionate 0.05%); for six to 12 weeks and then reduced to a moderately potent corticosteroid cream (e.g. mometasone furoate 0.1%), used intermittently. Phimosis in adults should be treated with the most potent corticosteroid available (e.g. clobetasol dipropionate 0.05%; this preparation is not currently approved by the TGA but it can be made at compounding pharmacies).

Urethral stenosis may show improvement with a topical corticosteroid placed directly into the urethra. Surgery is reserved for persistent phimosis or urethral stenosis that does not improve with topical corticosteroid treatment. Circumcision also aids self-examination for early detection of invasive SCC.

Lichen planus

Lichen planus is an idiopathic inflammatory disorder with itchy papules or plaques on the trunk, wrists or ankles. Genital lichen planus can be difficult to diagnose as it may present as a solitary plaque, similar in appearance to lichen sclerosus or *in situ* SCC (Figure 17), as single or multiple rings (Figure 18), or as erosive disease under the foreskin (Figure 19). Biopsy is essential.

Other signs of lichen planus include:

- adhesions between the foreskin and glans penis
- postinflammatory hyperpigmentation (common with lichen planus at any body site).

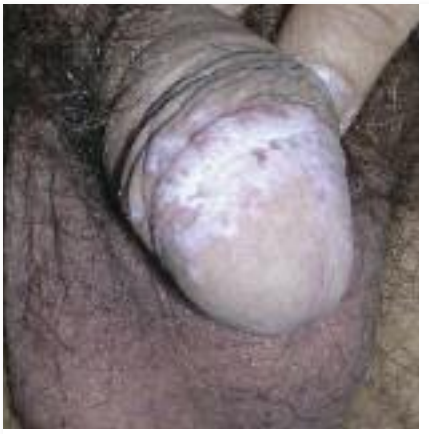


Figure 17. Scaly plaque of lichen planus on glans penis (similar to the appearance of lichen sclerosus).

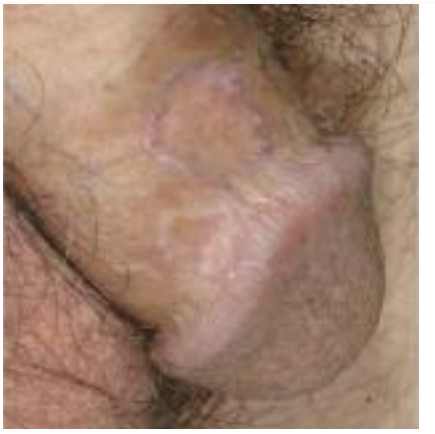


Figure 18. Annular plaques of lichen planus on shaft of the penis.

Figure 19. Lichen planus may show as an erosive disease under the foreskin (preputial recess).

The use of a more potent topical corticosteroid cream is usually necessary to treat genital lichen planus. Resistant disease requires specialist help.

Zoon's (plasma cell) balanitis

Zoon's (plasma cell) balanitis occurs in older uncircumcised males as an asymptomatic orange–red patch on the dorsum of the glans penis or adjacent foreskin, occasionally causing itch or irritation (Figure 20). A biopsy is necessary to confirm the diagnosis and exclude other disease.

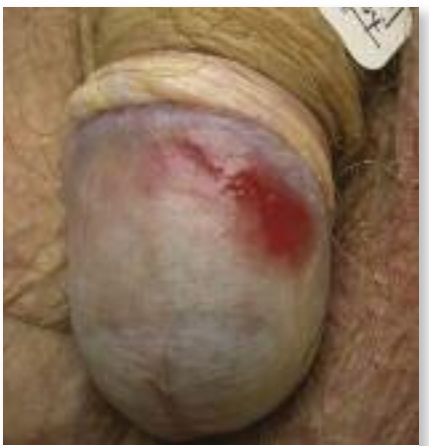


Figure 20. Zoon's (plasma cell) balanitis occurs (almost) exclusively in uncircumcised males.

Circumcision is often stated to be the definitive treatment but may be declined or inappropriate in an elderly patient. Zoon's balanitis often clears with short-term application of a topical corticosteroid cream alone (e.g. mometasone furoate 0.1%) or combined with an antibacterial cream (e.g. mupirocin 2%).

Although relapses often occur with medical treatment, circumcision is best reserved for recalcitrant, symptomatic disease. Topical tacrolimus and laser destruction are alternate treatments for persistent disease.

OTHER (NONINFECTIOUS) GENITAL SKIN DISEASES

Rarer male genital skin diseases include:

- hidradenitis suppurativa
- Hailey-Hailey disease
- Darier's disease
- pemphigoid.

Hidradenitis suppurativa (or acne inversa) is a disorder of apocrine glands (presenting with comedones, papulonodules, cysts and scarring of axillae), submammary region in women, groins as well as the anogenital region. Hailey-Hailey disease is an autosomal dominantly inherited disease with erosions and crusting of the flexures (axillae and groins) and submammary region.

Darier's disease (keratosis follicularis) is also an autosomal dominant disease with fibrous papules coalescing into plaques on the trunk and flexures, including the anogenital region. Pemphigoid presents with either tense bullae or erosions that may involve the genitalia. Specialist referral is the best way to manage these rare diseases.

INFECTIOUS GENITAL DISEASES

Genital warts and HSV infections are usually well managed in primary care or STI clinics. Resistant anogenital warts, molluscum contagiosum and recurrent genital HSV infection can be more difficult to manage.

Genital warts

Genital warts vary from small skin-coloured papules (Figure 21) to large verrucous pigmented plaques. Genital warts under the ventral foreskin near the frenulum are often more resistant to treatment (Figure 22).

Treatment of a few genital warts with cryotherapy is usually successful. Multiple warts can be treated with self-application of topical imiquimod 5% or topical

Figure 21. Genital warts (condyloma accuminata) at the tip of the retracted foreskin.

Figure 22. Multiple genital warts around the tip of foreskin and ventral frenulum (the site of maximal friction during sexual intercourse).

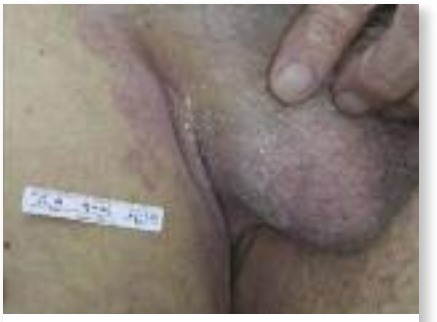


Figure 23. Tinea of the groin spares the penis and scrotum.

podophyllotoxin. Extensive, resistant warts may require curettage and diathermy or topical cidofovir 1 to 3%. Patients who are HIV-positive with perianal warts should have a rectal examination to exclude an associated anorectal SCC.

Genital molluscum contagiosum

In children, genital molluscum contagiosum is seen as small skin-coloured papules with a central depression ('umbilication'). They are usually acquired nonsexually, probably by bathing or swimming with infected children. In adults molluscum contagiosum is often, but not exclusively, acquired sexually. Immunosuppressed patients may show disseminated lesions or solitary nodules.

Molluscum in adults responds variably to cryotherapy, topical cantharidin (not available in Australia) or topical 5% imiquimod cream. Curettage is ideal for larger plaques.

Syphilis

Syphilis is resurgent worldwide, linked to rising rates of HIV infection. Although a painless penile ulcer (chancre) of primary syphilis is often self-detected, anal and oral chancres are more likely to be missed.

Condylomata lata of secondary syphilis may masquerade as 'perianal warts' or 'anal tags'. Differentiation of condylomata lata from common condylomata accuminata (anogenital warts) may be very difficult, especially in the absence of other cutaneous features of secondary syphilis (the maculopapular truncal and palmoplantar eruption and mucous patches of oral and genital mucosa). If syphilis is suspected, skin biopsy and syphilis serology are essential to confirm the diagnosis of condylomata lata.

Other infectious conditions

Tinea of the groin (tinea cruris) produces an itchy symmetrical spreading edge, often associated with tinea of the feet or toenails, although it spares the scrotum and penis (Figure 23).

Pruritic nodules of the scrotum or penile shaft are common in scabies, varying from a few nodules (Figure 24) to many nodules (Figure 25), and are (almost) pathognomonic for scabies infestation. Scabies is best treated with topical 5% permethrin cream applied to the whole body surface below the neck and washed off after at least eight hours. This treatment is repeated in seven days. Careful enquiry may detect other infected house-hold members or sexual partners. Washing of all bed clothing and nightwear is essential. The itch is managed by avoidance of soap, regular use of a moisturiser, application of a moderately potent topical corticosteroid cream to itchy sites and use of oral antihistamines. An intralesional corticosteroid is occasionally needed for persistent post-scabetic nodules.

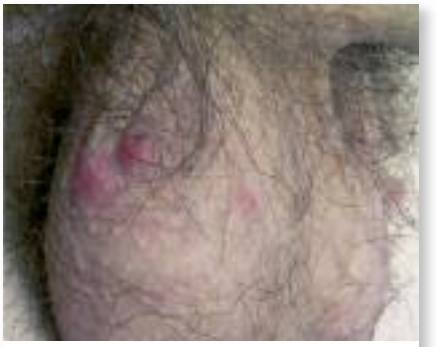


Figure 24. Sparse pruritic nodules on the scrotum or penile shaft with scabies infestation.

Figure 25. Multiple pruritic nodules on the scrotum or penile shaft are (almost) pathognomonic for scabies.

Figure 26. Seborrhoeic keratoses may be misdiagnosed as genital warts.

TUMOURS AND CANCEROUS LESIONS

Seborrhoeic keratoses

The most common benign tumours of fair-skinned people are seborrhoeic keratosis. They occur in adulthood and increase in frequency with age. The warty plaques of seborrhoeic keratoses vary in size and colour from skin-coloured to black. It can be difficult to differentiate a pigmented flat seborrhoeic keratosis from a melanoma.

Genital seborrhoeic keratoses are commonly misdiagnosed as genital warts (Figure 26). It is important that patients are reassured that these lesions are not an STI. Thin genital seborrhoeic keratoses may respond to cryotherapy but thicker keratoses are best treated with shave excision or curettage, providing tissue for pathology to differentiate from other diseases.

Invasive SCC

Two important precursors for invasive SCC are lichen sclerosus and *in situ* SCC. Both are more common in uncircumcised men.

There are three clinical variants of in situ SCC:

- erythroplasia of Queyrat (Figure 27)
- Bowen's disease
- Bowenoid papulosis (Figure 28)

Erythroplasia of Queyrat refers to *in situ* SCC of the glans or foreskin whereas Bowen's disease has no specific site. Bowenoid papulosis is a multifocal disease of smooth or verrucous, red or brown papules in young sexually active males; it is associated with HPV infection. The risk of transformation of erythroplasia of Queyrat and Bowen's disease to invasive disease is unknown but is believed to be low. Malignant transformation of bowenoid papulosis to invasive disease is very rare, if it ever occurs.[5]

Skin biopsy is essential for diagnosis of all forms of *in situ* SCC. Bowenoid papulosis is best treated like genital warts with local cryotherapy followed by topical imiquimod to help eliminate subclinical HPV infection.

In situ SCC of the glans or foreskin (erythroplasia of Queyrat) is best treated with circumcision combined with one of the following treatments: topical imiquimod, 5-fluorouracil cream, cryotherapy, curettage, laser destruction, local excision, Mohs surgery or photodynamic therapy.

Bowen's disease at other genital sites is best treated with local destruction (as for erythroplasia of Queyrat, above). Circumcision is not essential if the glans and foreskin are not involved.

Risk factors for invasive SCC include:

- being uncircumcised
- phimosis
- smoking
- previous psoralen and UVA exposure
- immunosuppression.

The role of HPV in SCC of the penis is less clear than for cervical carcinoma. Penile SCC presents as a scaly nodule or plaque (or occasionally an ulcer) on the glans and coronal sulcus (Figure 29).

The preferred treatment is total resection of the cancer with partial or total penectomy. Careful presurgical counselling is essential. Tissue-sparing treatments to be considered include local excision, Mohs surgery, laser destruction or radiotherapy. All patients with cancers of the glans penis should be referred to a urological or plastic surgeon skilled in management of this difficult disease.

Figure 27. *In situ* squamous cell carcinoma of glans penis around the urethral meatus (erythroplasia of Queyrat).

Figure 28. Bowenoid papulosis may appear as red papules under the foreskin in uncircumcised males rather than pigmented 'warts'.

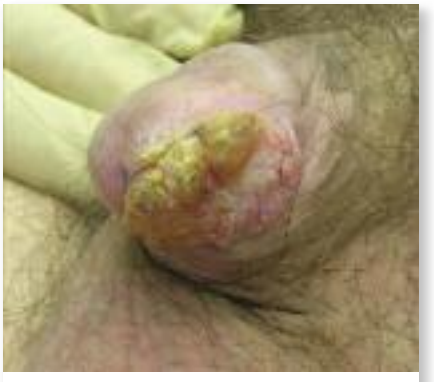


Figure 29. Invasive squamous cell carcinoma of the glans penis.

Figure 30. Nonmalignant genital melanotic macules need to be differentiated from melanoma.

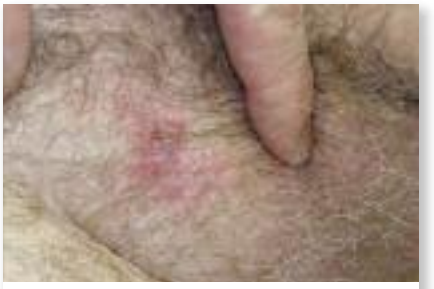


Figure 31. Extramammary Paget's disease of the scrotum usually presents as an asymptomatic red plaque.

Differentiating cancerous from noncancerous genital conditions

Genital basal cell carcinoma and melanoma are rare. It is important to distinguish melanoma from more common benign diseases such as seborrhoeic keratosis, postinflammatory hyperpigmentation, lichen planus, melanocytic naevi and genital melanotic macules.

OTHER GENITAL DERMATOLOGICAL CONDITIONS

Genital melanotic macules (or genital melanosis) is an idiopathic pigmentary disorder presenting as flat hyperpigmentation of the glans, foreskin or penile shaft (Figure 30). Genital extramammary Paget's disease (EMPD) is a premalignant, multifocal disease that presents as a red patch or plaque, and is often misdiagnosed as psoriasis, dermatitis or Bowen's disease (Figure 31).

Patients with genital EMPD need colonoscopy and bladder endoscopy to exclude associated internal malignancy. Surgical excision is common but incomplete removal and a high rate of local recurrence make surgical excision difficult for larger plaques. Intensive topical imiquimod cream, photodynamic therapy or local radiotherapy should be considered as alternative treatments for larger plaques of EMPD.

Localised hypopigmentation is most commonly due to vitiligo or lichen sclerosus. Postinflammatory hypopigmentation (loss of pigment), lichen planus and syphilis are less common causes.

The red burning scrotum syndrome is a distressing disorder of predominantly older, white males troubled by a hot, burning, irritable scrotum. Itch is not a common feature and sometimes there is not even any increased redness of the scrotum. Red burning scrotum syndrome is far more common than reported. It is also referred to as burning scrotum syndrome, red scrotum syndrome, male genital skin burning syndrome or dysaesthetic penoscrotodynia. These men have often seen many doctors with little benefit.

Management of the red burning scrotum syndrome involves removing any irritants, using cold compresses, ceasing any topical treatments and using low-dose amitriptyline. Alternative treatments include use of topical pimecrolimus and oral gabapentin. A supportive doctor–patient relationship is important to achieve improvement.

CONCLUSION

Most male genital skin diseases are easily managed when the correct diagnosis is made. It is important to respect the embarrassment and discomfort these males experience and to be aware of underlying concerns that they may not volunteer.

Common inflammatory diseases of the genitalia need to be accurately differentiated from premalignant and malignant disease. Assuming that a male genital problem is an STI causes much distress, unnecessary investigations and cost.

Early referral (if uncertain of the diagnosis) is a prudent course that heightens the likelihood of appropriate treatment and allays much anxiety. A side benefit is an increase in the knowledge base of the referring doctor, leading to greater professional satisfaction and competence. MT

REFERENCES

1. Nasca MR, Innocenzi D, Micali G. Penile cancer among patients with genital lichen sclerosus. J Am Acad Dermatol 1999; 41: 911-914.
2. Barbagli G, Palminteri E, Mirri F, et al. Penile carcinoma in patients with genital lichen sclerosus: a multicenter survey. J Urol 2006; 175: 1359-1363.
3. Powell J, Robson A, Cranston D, et al. High incidence of lichen sclerosus in patients with squamous cell carcinoma of the penis. Br J Dermatol 2001; 145: 85-89.
4. Prowse DM, Ktori EN, Chandrasekaran D, Prapa A, Baithun S. Human papillomavirus-associated increase in p16INK4A expression in penile lichen sclerosus and squamous cell carcinoma. Br J Dermatol 2008; 158: 261-265.
5. Porter WN, Francis N, Hawkins D, et al. Penile intraepithelial neoplasia: clinical spectrum and treatment of 35 cases. Br J Dermatol 2002; 147: 1159-1165.

COMPETING INTERESTS: None.