Male genital dermatology

lessons from male genital dermatology clinic

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Dr Anthony Hall

Associate Professor, Deakin University, Geelong, Victoria, Australia
Male Genital Dermatology Clinic, Skin Health Institute, Carlton, Victoria, Australia
Perception of most patients (& many non-dermatologists)

Genital disease

Sexually transmissible diseases ("STDs")

Non-infectious genital skin disease
Genital disease IS *mostly* non-infectious skin disease

- Genital disease
  - “STDs”
  - Non-infectious genital skin disease
Listen – always take history before examination

• let your patient “tell his story”

• try NOT to interrupt
  – (few people can talk uninterrupted for more than 5 minutes)
Pearl 1

Take time to obtain history from patient with genital problem

Time taken (to obtain history) demonstrates you are listening & care
Look - examination

- good lighting with magnification
- note if circumcised or not
  - examine under foreskin
- brief examination other relevant areas

Male patients (like female patients) feel uncomfortable with genital examination
Pearl 2

“More mistakes are made by not LOOKING than by not knowing” *

Examination ano-genital region is essential part of consultation

( * Dr John Colvin, Ophthalmologist, Melbourne, Australia)
Pearl 3

Genital skin biopsy essential if malignancy cannot confidently be excluded clinically

Have a LOW threshold for genital skin biopsy
What is normal?

• “Am I normal” IS concern of many male patients
  – (many female patients similarly concerned re-normality of genitalia: “Am I normal”)
Pearly penile papules

- single, double or even triple row small papules corona penis
- occur $\frac{1}{3}$ normal males
- cause anxiety “are these warts?” = patient & doctor alike

Treatment
- reassure – try not to treat
- (cryotherapy, diathermy, laser destruction reported)
Fordyce spots
(ectopic sebaceous glands)

- anxious pubertal male
- treatment = reassurance
  - “Not warts, infectious or cancerous”
  - “Normal variant”
Angiokeratomas of Fordyce

• Benign vascular malformation
  – (differentiate from very rare Fabry’s disease)
• usually asymptomatic (- occasionally bleed)
• treatment = reassurance (electrocautery if bleed)
Pearl 4

Know normal male genital anatomy & common anatomic variants
Pearl 5

Male patients with genital disease often have underlying fear of sexually acquired infection ("STD") or cancer

Raising this issue is essential part of management
Term “balanitis”

- non-specific *inflammation* of glans penis
  
  or

- *clinical sign* of redness of glans alone

- with *NO* reference to etiology
Term “balano-posthitis”

- non-specific inflammation of BOTH glans penis & foreskin

  OR

- clinical sign of redness of BOTH glans penis & foreskin

- with NO reference to etiology
Mnemonic “RED PENIS”

R - Reactive arthritis
E - Eczema (dermatitis)
D - Drug reaction (fixed drug eruption)
P - Psoriasis, Plasma cell balanitis, Planus (lichen planus)
E - Erythroplasia of Queyrat (PIN)
N - Neoplasia (inc PIN, SCC, EMPD)
I - Infections (candidiasis, genital warts)
S - Sclerosus (lichen sclerosus), Scabies, Syphilis
Phimosis

“Phimosis” = inability to retract foreskin over glans

Ability to retract foreskin:

- Birth 4%
- 17 years 99%
Presence of foreskin (prepuce) is associated with much higher rate of genital skin disease

“Dysfunctional foreskin”

(Chris Bunker, London)
Pearl 7

Pathologic phimosis should be considered a medical (rather than surgical) disease

Best treated with topical corticosteroid before circumcision considered
Psoriasis

• “commonest inflammatory disease of male genitalia”
  – (irritant dermatitis seen more commonly in our clinic)

• 1/3 patients with psoriasis have genital involvement

( Genital psoriasis. Ryan C et al; JAAD June 2015 (72)6:978-83)
Psoriasis

- but 2/3 patients (with psoriasis) recall having had genital involvement *(either present or in past)*

( Genital psoriasis. Ryan C et al; JAAD June 2015 (72)6:978-83)
Psoriasis

• itch very common
• scale may be absent – especially if uncircumcised
• natal cleft commonly involved
Psoriasis confined to glans penis

(flat) scaly papules
- if circumcised

(smooth) macules
- if uncircumcised

(NB: Solitary papule or plaque glans => consider in situ SCC)
Solitary papule or plaque glans => look for psoriasis elsewhere

eg scalp, nails & natal cleft
Psoriasis as “balano-posthitis”

- Diffuse inflammation (redness) glans & foreskin
Treatment of genital psoriasis

1st line treatment = weak topical corticosteroid
- if resistance to weak steroid, increase strength
- potent topical corticosteroid limited few weeks

My practice is reverse of this:
- Start with potent topical corticosteroid 2-4 weeks
  (give limited prescription = 30 gm tube)
- => titrate back to less potent corticosteroid

Alternative treatments of genital psoriasis to topical corticosteroids -

2. vitamin D analogues (eg calcipotriol)
3. tar-based topical treatments
   - 1-3% LPC in Aq cream or petrolatum (white paraffin)
4. calcineurin inhibitors (pimecrolimus, tacrolimus)
5. topical antibiotic, topical ketoconazole or topical imidazole (? Koebner effect)

Psoriasis may have different appearance in ano-genital region (*intertriginous site*)

Genital psoriasis (uncircumcised) may have NO scale
Irritant (contact) dermatitis

- commonly mis-diagnosed
  - even by dermatologists
- more common if –
  - uncircumcised ("balanoposthitis")
  - associated atopy
Irritant (contact) dermatitis

- usually itchy – but –
- may be asymptomatic redness of sub-prepuce & glans
- often many topical treatments tried
Treatment of irritant dermatitis

- Explain diagnosis, reassure “not STD”
- Remove irritants *(soap, etc)*
- Regular moisturizer & lubricant (sex)
- Group VII topical corticosteroid
  +/- topical imidazole cream
- AVOID topical local anesthetic
- *(? topical calcineurin-inhibitor)*
Pearl 9

Irritant dermatitis *IS* commonest male genital dermatosis & often mis-diagnosed

Often inappropriate investigations to exclude “STDs” & “candidiasis”
Lichen simplex chronicus (LSC)

- itchy, scaly, thickened (hemi-) scrotum
  - (more common on right side - if right-handed male)
- may see “cobble-stone” appearance
  - rather than parallel lines of lichenification
Allergic contact dermatitis
(much less common than irritant dermatitis)

- 72 year old male applied tea-tree oil ("natural" oil) to genitalia
  - painful & unable to walk
- diagnosis confirmed by Repeat Open Application Test ("ROAT")
1. Penile lichen sclerosus

- asymptomatic whitening of glans & foreskin
- occasionally itchy
- +/- erythema, purpura, telangiectases
Penile lichen sclerosus

- acquired phimosis (*difficulty retracting foreskin*)
  - difficulty with erections, voiding
- “burning” sensation (*dysesthesia*), dysuria
Penile lichen sclerosus – clinical sign

- constriction of distal penile shaft on retracting tightened foreskin ("waisting")
  - likened to narrowing of woman’s “waist”

(Chris Bunker, London)
Treatment male genital lichen sclerosus

Most men with genital lichen sclerosus cured by:

1. ultrapotent topical steroids (> 75%)
   - eg clobetasol propionate 0.05%

2. circumcision (> 75%)

The clinical spectrum of lichen sclerosus in male patients - a retrospective study. Acta Derm Venereol. 2014 Sep;94(5):542-6
1. Skin biopsy – confirm diagnosis

2. Topical corticosteroids
   • treatment of choice
   • used in dermatology since 1950’s
   • safe in genital disease
   • potential side-effects = over-emphasised
Association lichen sclerosus & SCC penis

(Life-time risk developing SCC with vulval lichen sclerosus ~ 5%)

• risk of developing in situ or invasive penile SCC = 2 – 9%
  (probably ~ 2%)
• penile SCC with histologic evidence of lichen sclerosus = 32 – 50%
Pearl 10

Male genital lichen sclerosus
commonest cause of acquired phimosis
&

(most likely) premalignant disease
2. Penile lichen planus

Commonest presentations:

1. Classic (hyperkeratotic) plaque
2. Annular plaque
3. Lace pattern (Wickham’s striae)
4. Erosive form
(1) Hyperkeratotic lichen planus
(2) Annular lichen planus
(3) **Lace pattern (Wickham’s striae)**
(4) Erosive lichen planus
Treatment of male genital lichen planus

(Try to) confirm diagnosis by skin biopsy
*(but histology may be inconclusive)*

- Potent (Group 1) topical corticosteroid
- Intraleisional corticosteroid
- Topical tacrolimus (?)
- Systemic therapy NOT often needed in lichen planus confined to genitalia
  - oral corticosteroid, acitretin, methotrexate
Pearl 11

Lichen planus may present as *erosive* balano-posthitis in uncircumcised men

“Therapeutic management is challenging. Control rather than cure is goal”

3. Plasma cell (Zoon’s) balanitis

(balanitis circumscripta plasmacellularis)

• middle-aged to elderly males

• (almost always) uncircumcised

• solitary red-orange, smooth + shiny plaque penis
3. Plasma cell (Zoon’s) balanitis

(balanitis circumscripta plasmacellularis)

- may see mirrored plaque on inner aspect foreskin (“kissing” lesion)
- chronic or relapsing disease
My management of Zoon’s balanitis

- Skin biopsy => *exclude in situ SCC*
- Group III topical corticosteroid *with* topical antibiotic twice daily 2 months => reduce “use as necessary”
- Alternative treatments
  - Topical tacrolimus 0.1% oint daily
  - *Circumcision if definitive “cure”*
Pearl 12

Plasma cell (Zoon’s) balanitis
- may be reactive pattern (mucositis) rather than true disease

Circumcision is NOT necessarily “treatment of choice”
Pearl 13

Pruritic papules on male genitalia (almost) pathognomonic for scabies
Opportunistic screening for sexually transmissible infections (“STDs”)

Consider -

- chlamydia (urinary or penile swab => PCR)
- gonorrhoea (penile swab => PCR) *(if indicated)*
- syphilis serology
- Hep B & Hep C serology
- HIV serology

NB: Consider Pap smear for female sexual partner(s)
Opportunistic advice prevention of STDs

- physical barrier protection = condoms
Opportunistic advice prevention of STDs

&

- immunological protection = vaccination
  - HPV vaccine (Gardasil)
  - Hep B vaccine
Opportunistic screening for STDs should be taken whenever appropriate.
Genital warts (condyloma acuminata)

- Most (90%) caused by HPV types 6 & 11
- Infected individuals at risk of co-infection with high-risk HPV types, mostly 16 & 18
Genital warts (condyloma acuminata)

Severe penile warts  Warts inguinal creases  Peri-anal warts
Prevention - Human papilloma virus vaccine

HPV vaccine available quadrivalent (Gardasil®)
⇒ Now 9-valent vaccine (Gardasil-9)

HPV vaccine recommendations
• females & males 9 – 26 yrs age
• FDA expanded indication 27 - 45 yrs

(October 2018)
Prof Ian Frazer (Australian) created vaccine
Treatment options - ano-genital warts

1. **Destructive treatments** *(doctor administered)*
   1. cryotherapy (liquid N\textsubscript{2})
   2. electrodessication (= electrocautery)
   3. shave excision or snip excision
   (4. laser destruction eg CO2 laser = *expense*)
   (5. photodynamic therapy (PDT) = *pain & expense*)

*Scarring following diathermy penile warts =>*
2. Medical treatments:

A. Doctor administered

1. trichloroacetic acid (TCA) 80-90% solution
2. (podophyllin resin = concerns re-systemic toxicity)
3. (intra-lesional interferon, topical cidofovir reported)
Treatment options - ano-genital warts

2. Medical treatments:
   
   B. Patient self-administered
      1. podophyllotoxin 0.5% solution
      2. imiquimod 5% & 3.75% cream
      4. sinecatechins 15% oint (green tea extract)
Ano-genital warts usually respond to (repeated) cryotherapy with topical treatment.

Need patience, persistence, positivity & multiple modality approach.
Syphilis – increasing since year 2000 (update 2020)

- Primary & secondary syphilis
  - 71% increase (2014 – 2018)

- Congenital syphilis
  - 185% increase (2014 – 2018)

(CDC October 2019)
Syphilis – Primary & secondary syphilis  
(CDC 2018)

- 90% = male patients
- age = 15 – 44 yrs age (80% cases)
- 60% = men who have sex with men (MSM)
- 50% cases = MSM co-infected HIV
Primary syphilis - clinical

1. Chancre - genital, anal or oral
2. Lymphadenopathy

Secondary syphilis - clinical

- diffuse exanthema (> 80%)
- mostly oval pink macules ("roseola syphilitica")
- palms & soles = macules & papules
- eroded mucous membrane plaques & lingual plaques
- lymphadenopathy
Pearl 16

Macules or papules on palms or soles
- always consider secondary syphilis

Syphilis increasing US – especially men-who-have-sex-with-men, HIV
Pediculosis pubis treatment

CDC (2015) recommended treatments

- Permethrin 1% cream rinse *(wash off after 10 minutes)*
- Malathion 0.5% lotion *(wash off after 8 -12 hours)*
- Topical ivermectin 0.5% lotion
- Ivermectin 250 µg/kg orally *(FDA OFF label*)
Pearl 17

STDs travel in packs – if detect one STD, look for another STD

Herpes genitalis

Genital warts

2 months later
Male genital dysesthesia

- male patients with genital skin *burning*
  - similar to *vulvodynia in women*
- involves whole male genitalia
- only part of genitalia (*scrotodynia, penodynia*)

Management male genital dysesthesia *

• most have seen many doctors

• most important aspect management is **acknowledgement** this is **real** disease & **not** imaginary

(* Note: There are **NO** “recommendations involving clinical medicine .... based on evidence that is accepted within profession of medicine as adequate justification for their indications and contraindications in care of patients”*)
Treatment male genital dysesthesia

1. **Tricyclics** – amitriptyline, nortriptyline
   
   - *begin amitriptyline 5 mg nocte => slowly increase*

2. Doxycycline  – *if associated rosacea*

3. GABA analogues – gabapentin, pregabalin

4. Serotonin – noradrenaline reuptake inhibitors
   
   - *eg duloxetine, paroxetine*
Treatment male genital dysesthesia

If above measures fail (or patient declines oral treatment), consider trial of:

(anecdotal from my patients & OFF label)

5. Topical calcineurin inhibitor (case reposts & OFF label)
   – (pimecrolimus, tacrolimus 0.1%)

6. Topical lidocaine spray (anecdotal & OFF label)
   – (“Promescent” spray FDA approved for premature ejaculation)
     (Lidocaine gel used for vulvodynia)
Pearl 18

Genital dysesthesia
(“red scrotum syndrome”)
is under-reported & challenging to manage

Aim to reduce severity of symptoms, not necessarily “cure”
Junctional melanocytic nevus

- mother requested excision of pigmented lesion of 11 yr old son’s glans penis
  - *(request declined)*
- 17 years age patient (himself) requested removal nevus
  - histology = junctional nevus
Seborrhoeic keratoses

• commonest benign genital pigmented lesions
Pearl 19

Seborrhoeic keratoses (on male genitalia) may be mis-diagnosed as genital warts

(Histopathological differentiation may also be difficult)
Scrotal epidermoid cysts

- uncomplicated epidermoid cysts -
Scrotal epidermoid cysts

• may be intensely itchy
  – secondary eczematization & excoriation
• calcified nodules = “idiopathic” scrotal calcinosus
Genital melanotic macules

- discrete pigmented macules in adult life (M=F)
- concern because mimic melanoma
- histology: ↑ basal pigmentation, NO ↑ melanocytes
- ? spectrum of Laugier-Hunziker S
Melanoma male genitalia

• Rare male genital cancer
Lichen sclerosus

Pale (white) glans or foreskin common in lichen sclerosus
Pearl 20

Genital melanotic macules need to be differentiated from melanoma
Chronic genital lymphedema

(CK, BD, 21587)

- chronic lymphedema penis & scrotum
- post-radical prostatectomy & radiotherapy for carcinoma prostate
Chronic edema penis with Crohn’s disease

2 patients with chronic penile edema & Crohn’s disease


Pearl 21

Exclude Crohn’s disease in chronic genital edema

Extra-intestinal Crohn's disease may present as genital edema
Penile intra-epithelial neoplasia (PIN) of glans penis (erythroplasia of Queyrat)

• may present as subtle macule, patch or thin plaque around urethral meatus +/- scale
Penile intra-epithelial neoplasia (PIN) (in situ SCC)

- asymptomatic plaque glans or shaft penis
- usually red or skin-colored
- single or multiple plaques
Penile intra-epithelial neoplasia (PIN) (in situ SCC)

- average age = 60 yrs
- Uncircumcised males >90%
- association with HPV (~ 50%)
- commoner glans & prepuce > penile shaft
- risk transformation SCC = 5-33%
Treatment PIN glans = circumcision & 1 of

1. Shave excision
2. Cryotherapy
3. Curettage
4. Topical imiquimod (off-label use)
5. Topical 5-FU (off-label use)
   (or both 3 & 4 sequentially)
6. Excision or Mohs’ surgery
7. Photodynamic therapy (PDT)
8. Laser surgery
   (& Pap smear for female sexual partner(s))
Pearl 22

Penile intra-epithelial neoplasia (PIN) *most* important premalignant genital skin disease

Presents as red macules, papules or plaques. Skin biopsy essential
Bowenoid papulosis

- 1 of 3 forms of penile intra-epithelial neoplasia (PIN)
- multiple, smooth skin-colored, red or brown papules
- mostly younger, hetero-sexually active males
- histology penile intraepithelial neoplasia = in situ SCC
Treatment of Bowenoid Papulosis

(Biopsy essential)

(Treatment less aggressive treatment than PIN glans)

**Medical** = topical **imiquimod**

(topical 5-fluoro-uracil, retinoic acid, cidofovir)

**Surgical** = cryotherapy, curettage & cautery

(laser destruction, photo-dynamic therapy (PDT))

**Follow-up**

- other STDs & partner (female partner = Pap smear)
- risk of progression to SCC “extremely low”
Pearl 23

Bowenoid papulosis may appear as skin-colored, pink or red smooth papules.

Not necessarily pigmented verrucous papules.
Squamous cell carcinoma penis

Two pathogenic pathways for penile cancer:

1. Human papilloma virus related (~ 50%)
2. Human papilloma virus independent
   - lichen sclerosus can progress to SCC independent of HPV infection
Cancer penis - risk factors

1. Being *uncircumcised* (foreskin intact)
2. Phimosis
3. Chronic inflammatory disease penis
4. PUVA exposure
5. HPV infection – esp HPV type 16
   • *detectable in ~ 50% penile cancers*
6. Smoking
7. AIDS
8. Age (> 55 yrs)
Penile cancer in **US** (in 2020)

- Penile cancer is **rare** in United States
- < 1% of all cancer diagnosed in men in USA
  - *(more common in Asia, Africa & Sth America)*
- American Cancer Society (estimates for **2020**) -
  - 2,200 new cases of penile cancer in USA
  - 400 deaths from penile cancer in USA

*(American Cancer Society 2020)*
Prevention cancer penis is dermatology issue

1. (neonatal) circumcision
   - ? discuss issue with parents / public issue ?

2. prevent phimosis
   - (usually lichen sclerosus) => topical corticosteroids

3. treat chronic inflammatory dermatoses
   - (lichen sclerosus) = dermatologist’s role
Prevention cancer penis is dermatology issue

4. monitor pre-malignant genital disease
   – *lichen sclerosus, PIN (penile intra-epithelial neoplasia)*

5. limit penile HPV infections -
   – *HPV vaccination, condom use*

6. prevent PUVA treatment to genitalia
   – *dermatologist’s role*

7. encourage smoking cessation
Pearl 24

Penile cancer is partly preventable & is dermatology issue
Genital extra-mammary Paget’s disease

We don’t accurately know:

- Risk of malignant transformation
  - from in situ adenocarcinoma to invasive adenocarcinoma
- Risk associated internal malignancy
- Rate recurrence after local excision
- Overall prognosis
Pearl 26

Treatment of extra-mammary Paget’s disease of genitalia requires multidisciplinary approach

Treatment of EMPD is not simply “wide local excision”
Further reading: Atlas of Male Genital Dermatology

Anthony Hall

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