

Male Genital Lesions

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Categories of Lesions

■ Infectious

- Herpes Simplex
- Syphilis
- Condyloma accuminata
- Candida
- Other

■ Inflammatory

- Psoriasis
- Lichen Planus
- Contact Dermatitis
- Fixed Drug Eruption
- Lichen Sclerosis et trophicus
- Zoon's Balanitis
- Other

■ Neoplastic

- Bowen's Disease
- Squamous Cell Carcinoma
- Verrucous Carcinoma
- Extramammary Paget's
- Pearly Penile Papules
- Other

■ Traumatic

- Automobile Accidents
- Crush Injuries
- Suction/vacuum erection device
- Penile Tourniquet Syndrome
- Zipper Entrapment
- Sexually Induced
- Iatrogenic

Differential Diagnosis

- Fixed drug eruption
- Allergic/irritant contact dermatitis
- Infection
- Neoplastic
- Trauma
- Psoriasiform/Papulosquamous
- Balanitides

Mnemonic: F.A.I.N.T. with
Psoriatic Balanitis

Evaluation

■ History

- Nature of complaints
- Circumcised or uncircumcised
- Recurrences and duration
- Sexual practices
- Coital partner complaints
- Prophylactic measures
- Dysuria
- Medications: oral and topical
- Allergies
- Review of systems: Systemic complaints

Evaluation

■ Physical Examination

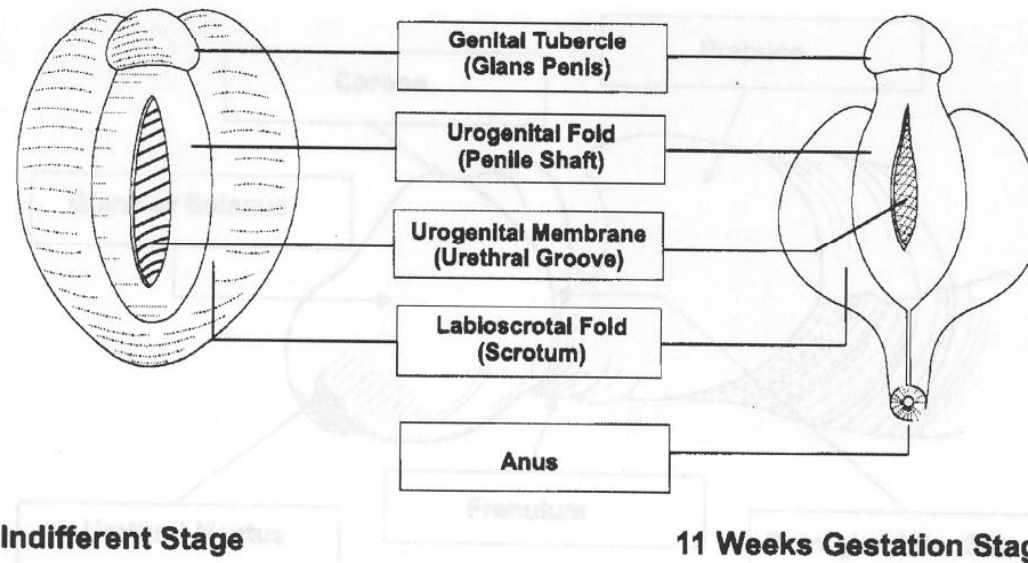
- Inflammation
- Edema
- Urethral discharge
- Erosion
- Ulcers
- Chancres
- Atrophy
- Hyper- or Hypopigmentation
- Nodule or tumor
- Other cutaneous findings: generalized or scattered

Evaluation

■ Laboratory Evaluation

- Dark-field preparation
- Tzanck preparation
- Potassium hydroxide preparation
- Gram's stain
- HIV/syphilis serology
- Bacterial/mycotic cultures
- Biopsy

Embryology

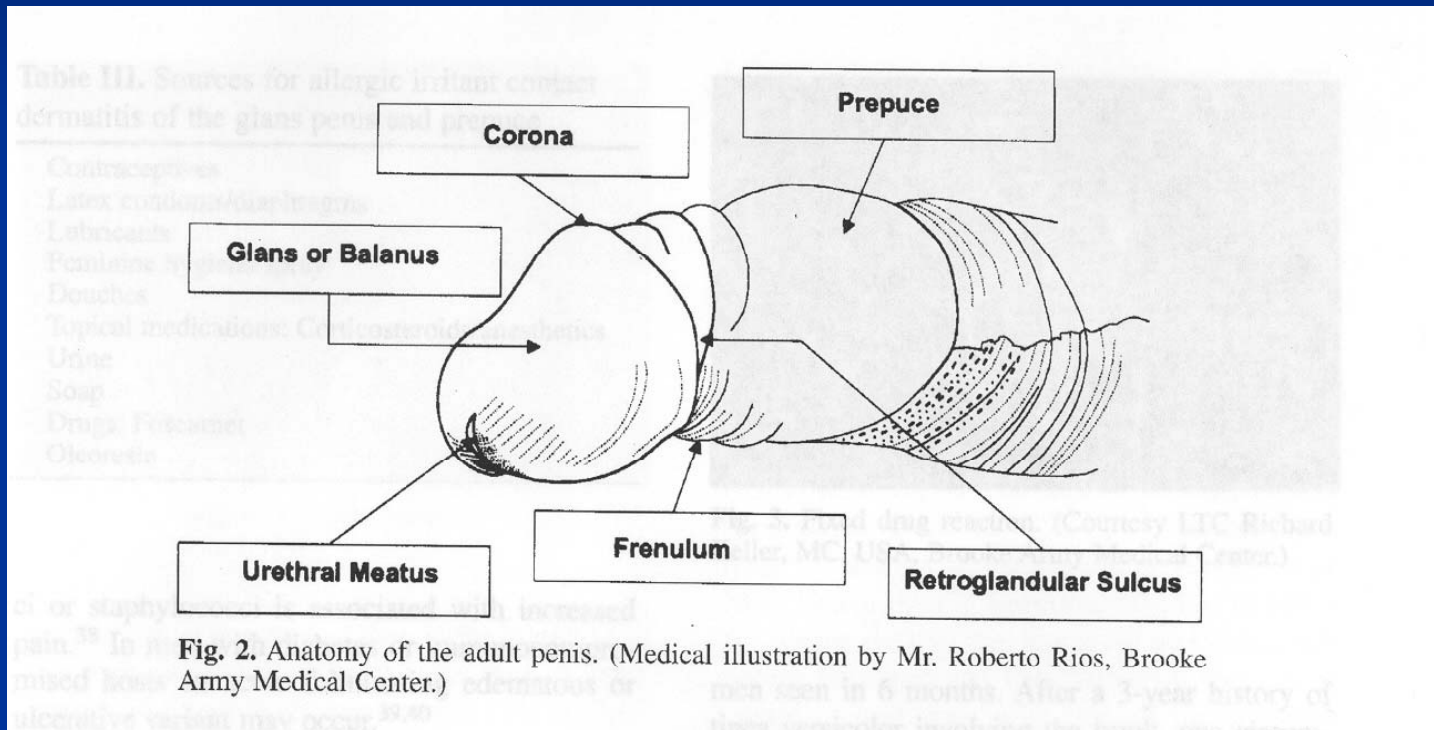


Indifferent Stage

11 Weeks Gestation Stage

Fig. 1. Embryologic genesis of male genitalia. (Medical illustration by Mr. Roberto Rios, Brooke Army Medical Center.)

Anatomy



Terminology

- Balanitis—inflammation of the glans.
- Posthitis—inflammation of the prepuce.
- Balanoposthitis—inflammation of both.

Infections

- Mycotic

- Candida
- Histoplasma
- Blastomycosis
- Cryptococcus
- Penicillium

- Bacterial

- Streptococci
- Staphylococcus
- Pseudomonas
- Chlamydia
- Mycoplasma
- Neisseria
- Treponema
- Haemophilus
- Calymmatobacterium
- Bacteroides
- Gardnerella
- Mycobacterium

- Parasitic

- Entamoeba
- Trichomonas
- Sarcoptes
- Leishmaniasis

- Viral

- Herpes
- Human Papillomavirus
- Molluscum contagiosum

Infections: Herpes Simplex

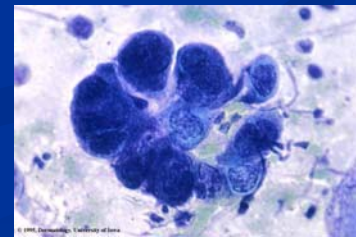


Herpes Simplex

- Genital Herpes caused by HSV type II.
- Lesions range from intact or ruptured vesicles on an erythematous base to chronic ulcerations.
- Pain, burning, pruritus.
- Lesions come and go; can recur in same place.
- Can have viral shedding in absence of visible lesions.
- Occasionally associated urethritis.
- Can have accompanying tender lymphadenitis, and constitutional symptoms.
- Can have associated aseptic meningitis.

Herpes Simplex

- Chronic ulcerative HSV usually seen in setting of immunosuppression, such as HIV, chemotherapy, organ transplant, hematologic malignancies.
- Viral culture/PCR are more sensitive, though a positive Tzanck smear done by a knowledgeable examiner is very reliable, though does not identify type of HSV or V. Zoster. (negative Tzanck is uninformative.)



Herpes Simplex

- Standard treatment is systemic antiviral agent: acyclovir, valacyclovir, famcyclovir.
- Valacyclovir in immunosuppressed patients (HIV, bone marrow transplant, renal transplant) may increase risk of TTP/HUS.
- Syphilis and herpes simplex are the most common causes of genital ulcers.

Syphilis



Syphilis



Syphilis

- Caused by spirochete, Treponema palidum.
- Has primary, secondary, latent, and tertiary stages. (Primary stage (chancre) emphasized here.)
- Primary chancre is painless.

Syphilis: Diagnosis

- Typical skin lesions and history raise suspicion.
- Diagnosis based on
 1. Direct detection of treponemes or treponemal DNA by ***MICROSCOPY*** (Dark field microscopy) or
 2. Molecular biological techniques that detect ***antibody response*** to cardiolipins (non-treponemal tests), or treponemal antigens (treponemal tests) (most common method); or
 3. ***Silver stain*** of histopathologic sections.

Syphilis: Diagnosis

- *T. pallidum* cannot be routinely cultured.
- Darkfield exam of material from a chancre can detect motile spirochetes, but is seldom available, so most practitioners rely on blood tests, of which there are many.
- RPR and VDRL are readily available nontreponemal tests. Titers correlate with disease activity, and are useful in screening and monitoring, and revert to negative after treatment.
- Qualitative tests are OK for screening, but positive results have to be confirmed by antibody titer.

Syphilis: Diagnosis

- Treponemal Tests: Usually done to confirm a reactive non-treponemal test. (TPHA, MHA-TP, FTA-ABS)
- Biopsies of skin lesions can be stained with silver and spirochetes are identifiable.
- Limitations of non-treponemal tests
 - Not reactive in early primary syphilis
 - Can have false-negatives
 - Can have temporary negative in secondary syphilis in HIV

Syphilis: Diagnosis

■ Limitations of non-treponemal

Biological false-positives seen in:

- Pregnancy
- Autoimmune disease
- Drug abuse
- Lymphomas
- Infectious diseases
- Hepatitis and cirrhosis
- Antiphospholipid Syndrome
- Idiopathic, familial

Syphilis: Diagnosis

■ Limitations of treponemal tests

- Lack of reactivity in early darkfield positive primary syphilis
- Not useful for monitoring response to treatment, i.e. titers indicate active OR past infection; titers persist after cure; do not revert to negative.
- False positive: endemic treponematoses and borreliosis (e.g. Lyme)
- Biological false-positive: autoimmune disease, HIV infection

■ When tests react

- 70-80% VDRL/RPR + in primary syphilis
- 99% VDRL/RPR + for secondary syphilis
- 65-85% FTA-ABS/MHA-TP + in primary
- 100% in secondary
- Teaching point: Serology not 100% sensitive in primary syphilis

Syphilis

- In primary syphilis, chancre noted as follows:

■ Glans	35%
■ Prepuce	19%
■ Frenulum	10%

- Syphilitic Balanitis of Follman

- Rare balanitis associated with primary syphilis; appears as a swollen glans covered with partially coalescent white flat papules and plaques.

- Standard Treatment for early syphilis: Benzathine Penicillin G 2.4 million units – 1 dose, if not PCN allergic and immunocompetent.
- HIV: Benzathine Penicillin G 2.4 million units weekly X 3 doses.
- Alternatives: Doxycycline 200 mg daily x 14 days.
TCN 500 mg qid X 14 days, Erythro 500 mg qid X 14 days,
Ceftriaxone 250 mg IM daily X 10 days

Chancroid



Chancroid

- Caused by *Haemophilus ducreyi*
- Found primarily in developing countries
- Associated with commercial sex workers and their clientele.
- In the U.S. found mostly in individuals who have visited countries where chancroid is known to occur.
- Outbreaks in the U.S. have occurred in association with crack cocaine use and prostitution.
- Uncircumcized men are 3-4 times more likely to contract chancroid from an infected partner.
- Risk factor for contracting HIV.

Chancroid

- One to two day incubation period after exposure.
- Lesions range from 3-50 mm across.
- Painful.
- Sharply defined, irregular or ragged, undermined borders.
- Base of lesion bleeds easily if traumatized.
- Half of infected men have only one ulcer.

Chancroid

CDC clinical definition includes all of the following:

- One or more painful ulcers; combination with tender adenopathy is suggestive.
- Suppurative adenopathy is almost pathognomonic.
- No evidence of *Treponoma pallidum* by dark field exam or by serology performed at least 7 days after onset of ulcer.
- Presentation not typical of HSV II, or HSV culture is negative.

Chancroid

- Treatment is single oral dose (2 tablets) of azithromycin, or single IM dose of ceftriaxone, or oral erythromycin for 7 days.
- Similarities to chancre:
 - Both originate as pustules at site of inoculation and progress to ulcers.
 - Both typically 1-2 cm in diameter.
 - Both are STDs.
 - Both on genitals.
 - Both can be present at multiple sites and with multiple lesions.

Chancroid

- Differences from chancre:
 - Different organisms are causative.
 - Chancres are painless; chancroid is painful.
 - Chancres are typically non-exudative; chancroid usually has grey or yellow purulent exudate.
 - Chancres have a hard edge; chancroid has a soft edge.
 - Chancres heal spontaneously even in the absence of treatment.
 - Chancres can occur in the pharynx as well as on the genitals.

Granuloma Inguinale



Granuloma Inguinale

- Rare in the U.S., though could be seen in individuals who have had sexual contact in third world countries.
- Found in underdeveloped regions.
- Caused by *Klebsiella granulomatis* (formerly *Calymmatobacterium granulomatis*)
- Also known as Donovanosis.
- Causes small *painless* nodules.
- Nodules appear 10-40 days after sexual contact.
- Later the nodules burst, creating open, fleshy, oozing lesions.
- Infection then spreads causing mutilation of tissues.
- Will progress until treated.
- Lesions typically found on shaft of penis, labia, or perineum.

Granuloma Inguinale

- Doctors experienced with this condition can diagnose just by the appearance of the ulcers.
- However, a tissue sample can be obtained, including biopsy, aspirates, and scrapings. Stained tissue containing Donovan bodies is diagnostic.
- Nodules can be mistaken for lymph nodes, but true lymphadenopathy is rare, distinguishing this from Chancroid.
- Treatment: three weeks of erythromycin, streptomycin, tetracycline, or 12 weeks of ampicillin. Must complete full course of treatment in spite of early improvement.

Bacterial Balanitis



Bacterial Balanitis

■ Organisms

- Streptococcus spp.
 - Group B beta-hemolytic
 - Postpubertal uncircumcized males
 - Presentation ranges from erythema to edema
 - Group A beta-hemolytic
 - Prepubertal uncircumcized boys
 - Clinical findings are similar to group B
- Staphylococcus aureus
 - Prepubertal boys
 - TSS has been reported
- Pseudomonas
 - Ecthyma gangrenosum-like lesions
 - Most patients are neutropenic
- Other: Haemophilus parainfluenza, Klebsiela, Staph epi, Enterococcus, Proteus, Morganella, E. Coli

Genital Warts



Genital Warts



Bowenoid Papulosis



Genital Warts

- Caused by human papilloma virus.
- Most common sexually transmitted disease.
- 1% annual incidence
- Prevalence of HPV has been estimated to exceed 50%,
- Millions of Americans have genital warts, though exact numbers are not available.
- >80% of American women will have contracted at least one strain of HPV by age 50.
- Penile shaft most often affected, but may involve meatus, glans, corona, or prepuce in 30-60% of cases.
- Many or most cases are subclinical, i.e. not visible on routine exam. Especially common in uncircumcized men.

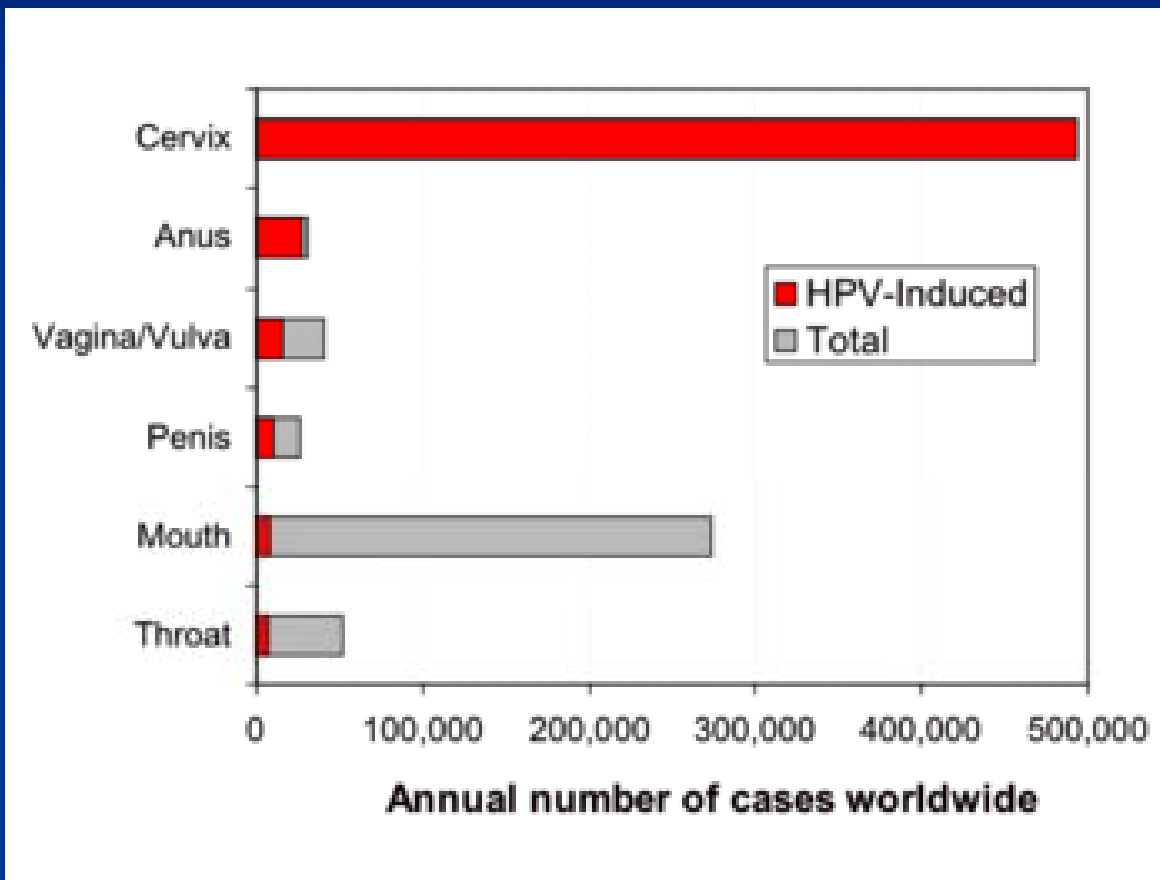
Genital Warts

- HPV has more than 100 known subtypes.
- Types 6 and 11 cause ~90% of genital warts, and are the least likely to transform into malignancy.
- Types 16 and 18 have a high incidence of malignant transformation, and account for ~70% of cervical cancers worldwide.
- Only a small percentage of women with HPV develop cervical cancer, but between 250,000 and 1 million American women each year are diagnosed with cervical dysplasia.
- 11,000 American women develop cervical cancer annually, and 3,700 die of this disease. (Worldwide 470,000 cases; 233,000 deaths) (deaths>in poor)
- Most of these cancers occur in women who have not had pap smears in the last 5 years.
- HPV is thought to be responsible for virtually all cases of cervical cancer.
- Other types (33, 35, 39, 40, 43, 45, 51-56) have a moderate risk of transformation. 19 types are considered “high risk” for development of cancer.
- Different types may coexist in the same patient. (10-15% of patients)

Genital Warts

- Uncircumcized men are susceptible to an HPV balanoposthitis. Aceto-whitened lesions can be biopsied to confirm the diagnosis.
- HPV virus DNA has been identified in verrucous carcinoma and squamous cell carcinoma of the penis. (more later)
- Rate of malignant transformation into bowen's disease and squamous and verrucous cell carcinomas is unknown.
- Bowenoid papulosis, also caused by HPV, clinically looks like genital warts, but histologically has features resembling bowen's disease. Most often caused by HPV 16. Since lesions are usually treated as warts without a biopsy, the true incidence is unknown. Not known if this is in fact malignant, though some authorities consider it to be carcinoma in situ.
- HPV 16 is associated with a form of throat cancer.

HPV-induced cancers



Genital Warts

Treatment

- Liquid nitrogen
- Podophyllin
- Aldara
- Condylox
- 5-FU
- Surgery/laser
- Interferon

Prevention

Condoms protect against HPV, but do not completely prevent transmission.

Incidence of genital HPV was 37.8% per patient-year of college freshman women who used condoms consistently, compared to 89.3% who did not use condoms consistently.

Pearly Penile Papules



Pearly Penile Papules

- Normal Structures
- Require no treatment
- Need to avoid confusing with warts

HPV Vaccine

- Two products on the market.
- Gardasil was approved by FDA in 2006, and as of 2007 was approved in >80 countries. Provides protection against HPV types 6, 11, 16, 18. Licensed & available in US.
- Cervarix protects against types 16 and 18. Available in >90 countries. Application pending with FDA in US.
- Elicits virus-neutralizing antibodies that prevent initial infection.
- Must be administered before infection with the HPV types covered by the vaccine in order to be effective.
- Since vaccine only covers some high-risk HPV, regular Pap smears still recommended even after vaccination.
- Vaccine is considered safe by FDA and CDC.

HPV Vaccine

- Vaccine thought to offer 100% protection against cervical cancer from HPV 16 and 18 with few or no side effects.
- Some cross reactivity with other cancer-causing HPV types, but clearly does not protect against all types.
- Protection expected to last a minimum of 4.5 years after initial vaccination.
- Indicated for use in females aged 9-26 years who have not contracted HPV.
- There is evidence indicating that HPV vaccine prevents cervical cancer in women up to age 45.
- Given IM 0.5 ml
- 3 doses at baseline, 2 months, 6 months.
- Can be used in males to reduce risk of genital warts, penile cancer, anal cancer. Probably would not be as cost effective in males, but could reduce virus pool in the population.
- Expensive: \$120/dose X 3 doses = \$360.
- Many insurances will not cover the cost.
- There has been much controversy regarding laws requiring involuntary vaccination of girls. Many states have had various proposed laws. Most have not passed. Kentucky does not have such a law.

Molluscum Contagiosum



Molluscum contagiosum

- Caused by the Molluscum contagiosum virus. (DNA pox virus)
- Contagious.
- Common lesion in children, but can be seen in adults.
- HIV+ patients can get numerous and large lesions.
- Can be found on all parts of the body, including the genitalia.
- Transmission is usually casual, though can be sexual if on pubis or genitals of sexual partners.
- Treated by liquid nitrogen, cantharidin, curretage, and other methods.
- Some physicians recommend not treating in children given discomfort of treatment and relative benignity of the condition.

Candidiasis



Candidiasis

- Candida Sp. are the most common cause of infectious balanitis.
- Clinical features: mild glazed erythema, satellite eroded pustules, moist curdlike accumulations.
- Symptoms: mild burning and pruritus.
- Increased pain suggests bacterial superinfection.
- Diagnosis: recognition of pseudohyphae in KOH, saline prep, or Gram's stain.
- Treatment: topical clotrimazole, fluconazole 150 mg single dose, topical nystatin, many other topicals.
- Other mycotic infections have been reported (dermatophytes and deep fungi) but are rare.

Anaerobic Erosive Balanitis



Anaerobic Erosive Balanitis

- Erosive and gangrenous balanitis resulting from a symbiotic infection of anaerobes and non-treponemal spirochetes.
- *Bacteroides* spp. are most common isolates.
- Anaerobic bacteria are important in this infection.
- Occurs in uncircumcized men.
- Predisposing factors include relative phimosis and poor hygiene.
- Patients initially have extensive tender erosions of glans accompanied by foul-smelling purulent discharge.
- Edema of prepuce causing phimosis is common.
- Diagnosis is confirmed by demonstrating spirochetes (dark-field) along with numerous bacteria.

Anaerobic Erosive Balanitis

- Transmission thought to occur most commonly by orogenital contact.
- Venereal transmission from women with anaerobic vaginitis or dense normal flora is possible.
- Treatment with metronidazole gives rapid improvement.
- Untreated cases may lead to phagedenic complications.

Scabies



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Inflammatory

- A wide variety of cutaneous diseases not specific for the male genitalia may present on the glans penis, including:

- Psoriasis
- Lichen Planus
- Contact Dermatitis
- Fixed Drug Eruption
- Lichen Sclerosis et Atrophicus
- Zoon's balanitis
- Seborrheic dermatitis
- Pityriasis rosea
- Crohn's disease
- Ulcerative colitis
- Sarcoidosis
- Pemphigus vegetans
- Necrobiosis lipoidica
- Hypereosinophilic syndrome

Inflammatory: Psoriasis



Psoriasis



Psoriasis

- Psoriasis and lichen planus may occur solely on the glans, or have concurrent extragenital involvement.
- Psoriasis and lichen planus are two of the most common papulosquamous conditions of the glans.
- When presented with scaly genital lesions, there should be a search for extragenital affected areas, which if present will assist in making the diagnosis.

Lichen Planus



Lichen Planus



Lichen Planus

- Dermatologic disease that can affect all areas of skin.
- One of the “papulosquamous” conditions.
- Buccal mucosae of mouth, when affected, has a white lacy appearance.
- Often seen on hands and feet.
- Can affect scalp hair causing alopecia (lichen planopilaris).
- When penis is affected, the glans is the most common area.
- Diagnosis made by recognizing clinical features:
 - Lichenoid papules
 - Violaceous color
 - Wickham’s striae
- Biopsy is characteristic if diagnosis is not clear.

Reiter's Syndrome



Reiter's Syndrome

- Syndrome of urethritis, arthritis, ocular findings, oral ulcers, and psoriasiform lesions.
- More frequent in men than women; ages 20-40; white>black.
- Chlamydia trachomatis is major cause of urethritis. (many others: Neisseria, Salmonella, shigella, yersinia, camplobacter, others)
- Food poisoning can be causative.
- Can be seen in HIV+ patients.
- Considered a reactive arthritic process.
- Most common eye lesion is conjunctivitis, but can include iritis, uveitis, glaucoma, keratitis.
- Arthritis tends to be self-limiting but can result in chronic disability. Polyarthritis and sacroiliitis are the most common.
- Skin lesions occur in ~5% of patients, with predilection for soles, extensor legs, penis, dorsal hands, fingers, nails and scalp.
- Pustular plantar lesions are termed keratoderma blenorrhagicum.
- Penile lesions are termed balanitis circinata.
- Strong association with HLA B27.
- Treatment is for causative infection, otherwise symptomatic.

Contact Dermatitis



Contact Dermatitis

- Sources for irritant/allergic contact dermatitis
 - Contraceptives
 - Latex condoms/diaphragms
 - Lubricants
 - Feminine hygiene spray
 - Douches
 - Topical medications: Corticosteroids/anesthetics
 - Urine
 - Soap
 - Drugs: Foscarnet
 - Oleoresin

Contact Dermatitis

- Passive transfer of Rhus oleoresin is common.
- Often present with marked edema
- Condoms suggested by history and sharply demarcated dermatitis at base of penile shaft.
- Different brands of condoms may contain different vulcanizers/antioxidants; thiurams, carbomates and mercaptobenzothiazole are the usual sensitizers.
- Contact urticaria from latex suggested by history of local swelling or pruritus during intercourse.

Contact Dermatitis

- Systemic and respiratory symptoms may develop in patients with latex-induced contact urticaria.
- Lubricants from condoms, feminine hygiene products, and douches can be causative.
- Patch testing can be helpful, but should include thiurams, carbomates, mercaptobenzothiazole, perfume mix, parabens, guar gum, nonoxynol-9 if possible. (T.R.U.E. test does not include all of these.)

Contact Dermatitis

- Irritant contact dermatitis may occur in both children and adults.
- Ammonia liberated from urine can induce inflammation of glans and prepuce after long-term exposure in diapers.
- Irritant contact is a common cause of penile dermatitis.

Fixed Drug Eruption



Fixed Drug Eruption

- Well-defined erythematous patches, plaques, or bullae that resolve with hyperpigmentation
- Recur at same site after repeated exposure to offending drug.
- Most often single lesions
- Irregularly shaped.
- Often affects genitalia, most often the glans.
- Often confused with balanitis

Fixed Drug Eruption

- Burning, swelling, pruritus, pain of glans or prepuce.
- Require sensitization to offending drug, which usually requires 1 to 2 weeks.
- Most common agents: tetracycline, phenolphthalein, sulfonamides, barbiturates, salicylates, penicillins.

Lichen Sclerosis et Atrophicus (Balanitis Xerotica Obliterans)



Lichen Sclerosis et Atrophicus

- Chronic, progressive, sclerosing inflammatory dermatosis of unknown cause.
- Can occur on many parts of the body, but a large proportion occur on the genitalia, both male and female.
- In males with genital lesions, it was originally called Balanitis Xerotica Obliterans, a confusing term still found in some books, but clearly recognized now as male genital LS&A.
- Occurs on penis as single or multiple erythematous papules, macules, or plaques, that progress to sclerotic or atrophic white, ivory, or blue-white coalescent zones.
- Commonly involves glans and prepuce.
- Frenulum, urethral meatus, and fossa navicularis may be involved.
- Penile shaft is less commonly involved.
- Prepuce may become adherent to glans
- Sclerotic white ring at the tip of prepuce is diagnostic.
- Can see serous and hemorrhagic bullae, erosions, fissures, telangiectasia, and petechiae of affected glans.
- With disease progression, coronal sulcus and frenulum may be obliterated, and there may be gradual narrowing of the meatus.

Lichen Sclerosus et Atrophicus

- Progressive meatal stenosis can cause sloughing of distal centimeter of the urethra.
- Early LS&A usually asymptomatic, but may cause complaints of phimosis, pruritus, burning, hypoesthesia of glans, painful erection with sexual dysfunction, dysuria, urethritis with or without discharge.
- Progressive narrowing of meatus can cause significant urinary retention.
- Most common in middle-aged uncircumcized men.
- Common cause of phimosis in men and boys.
- Cause is unknown.
- Course is chronic without regression.
- Although rare, malignant transformation has occurred.
- Usual treatment is therapeutic circumcision.
- Topical clobetasol has been found to reverse changes in young men.
- Other treatments can include other topical steroids, intralesional steroids, systemic retinoids, topical testosterone.

Neoplasms: Penile Carcinoma arising in LS & A



Zoon's Balanitis



Zoon's Balanitis

- AKA Plasma cell balanitis, balanitis circumscripta plasmacellularis.
- Benign idiopathic condition.
- Presents as solitary, smooth, shiny, red-orange plaque of glans and prepuce in uncircumcized middle-aged or older men.
- Lesions exhibit pinpoint purpuric “cayenne pepper” surface spotting with an area with a yellow hue.
- Vegetative, erosive, and “multiple lesion” variants have been reported.
- Analogous lesions may be seen on vulva, nose, lips, oral cavity, larynx, epiglottis.
- Tends to be chronic.
- Often present months to years before presentation.
- Minimal symptoms may include mild tenderness and/or pruritus.
- Diagnosis confirmed by distinctive histology.
- Cause is unclear.
- Treatment is circumcision. CO2 laser has been used successfully.

Neoplasms of Glans and Prepuce

- Erythroplasia of Queyrat/Bowen's Disease
- Squamous Cell Carcinoma (penile carcinoma)
- Verrucous Carcinoma
- Melanoma
- Metastatic genitourinary and gastrointestinal tumors
- Kaposi's Sarcoma
- Extramammary Paget's Disease
- Basal Cell Carcinoma
- Micaceous and verrucous malignant balanitis

Neoplasia: Bowen's Disease (Erythroplasia of Queyrat)



Bowen's Disease

- In situ squamous cell carcinoma
- Median age at onset is 51 years; range is 20-80 years.
- Arises from squamous epithelium of glans or inner lining of prepuce.
- Almost exclusively in uncircumcised men.
- May progress to invasive carcinoma after a variable period.
- Rare in the US; prevalence is not well documented.
- Treatable if underlying invasive carcinoma does not exist.
- Up to 10% may have invasive SCC in primary lesion.
- Extension of cancer cells into submucosa is associated with 20% incidence of regional lymph node metastases.

Bowen's Disease

- Solitary or multiple plaques.
- Can be smooth, velvety, scaly, or verrucous, but typically minimally raised, erythematous plaques with variable texture.
- Almost always involves glans or adjacent surfaces or both.
- Can present with redness, crusting, scaling, ulceration, bleeding, pain, itching, dysuria, penile discharge, difficulty retracting the foreskin.
- Moh's micrographic surgery is considered treatment of choice.
- Other treatment options include: cryotherapy, ED&C, CO2 laser ablation.

Penile Carcinoma



Penile Carcinoma



Penile Carcinoma

- Malignant growth on skin or in tissues of the penis.
- Squamous cell carcinoma is by far the most common type. (>90% of cases)
- Very rare in Europe and North America (1 in 100,000 men)
- 0.2% of cancers and 0.1% of cancer deaths.
- In some parts of Africa and South America it accounts for up to 10% of cancers in men.
- Early symptoms include pruritus or burning under the foreskin.
- Progression is by two patterns: Papillary tumors and flat lesions
- Papillary tumors appear on glans as nodules that eventually become necrotic, ulcerative, and secondarily infected.
- Flat lesions ulcerate early; an erosion with rolled edges may be the only sign of a deeply infiltrating carcinoma.
- May occur on any part of penis, but glans alone is affected in 40% of cases.
- Glans or prepuce involvement is seen 60% of the time.
- Palpable adenopathy exists in 51% of cases. Of these, 45% have cancer in the nodes, and the remainder have inflammatory lymphadenopathy.
- 20% of patients have nodal metastases even in absence of adenopathy.

Penile Carcinoma

- Mean age at diagnosis is 60 years.
- Risk factors include: current smokers, history of genital warts, chronic dermatitis or eruption of penis for >1 month, circumcision after the neonatal period.
- Retained smegma in uncircumcized men may be one reason that circumcision prevents malignancy. Smegma has been shown to be carcinogenic in animals
- HPV 16 is most commonly associated subtype.
- Conditions reported with SCC include LS&A and “leukoplakia.”
- Treatment options include: Moh’s micrographic surgery, laser ablation, radiation therapy.

Verrucous Carcinoma (Buschke-Loewenstein Tumor)

- Specific type of low grade SCC.
- Rare
- 2/3rds in males <50 years old.
- Majority are uncircumcised men.
- Frequently have history of balanitis, ulceration, phimosis.
- Lesions are exophytic with cauliflower-like appearance and may occur on glans or anogenital mucosa.
- Can be difficult to distinguish clinically and histologically from large condylomata.
- Have tendency to be deeply infiltrating and destructive.
- Local invasion can be extensive, but metastasis is rare.
- Radiation therapy may predispose to metastasis.
- HPV 6 and 11 often pathogenic; occasionally 16 and 18.

Buschke-Loewenstein Tumor



Pseudoepitheliomatous, keratotic, and Micaceous Balanitis

- Rare (14 reported cases in English language literature)
- Involves skin of glans in older men who were circumcised late in life.
- Presents as white scaly keratotic plaque on glans.
- Affects exclusively older men.
- There has been controversy in making the diagnosis based on the histology of the process.
- Has been associated with progression to verrucous carcinoma and squamous cell carcinoma.
- Etiology is unclear.

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Treatment

- 5 fluorouracil
- Potent topical steroids
- Radiotherapy
- Cryotherapy
- Local excision

Treatment often protracted.

Many patients fail topical and surgical treatment.

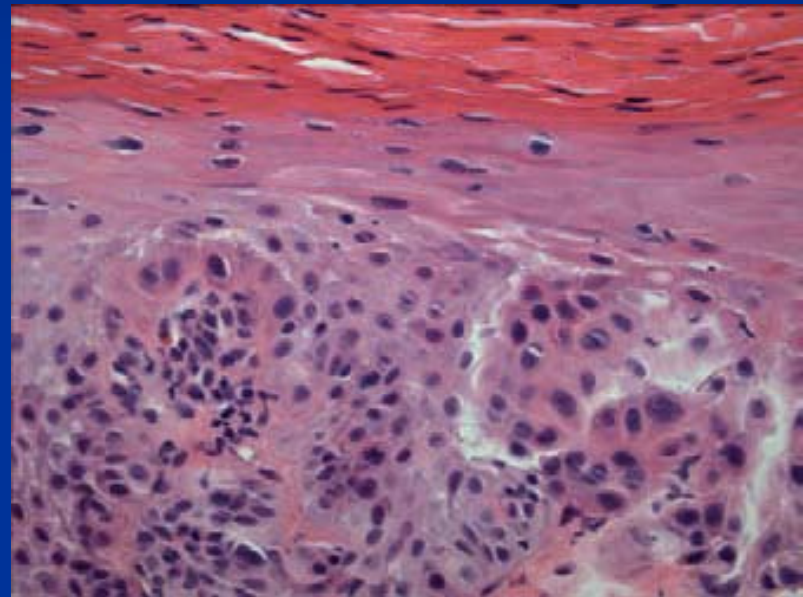


Pseudoepitheliomatous, keratotic, and Micaceous Balanitis

Confluent hyperkeratosis

Focally increased
suprabasilar pleomorphism

Mitotic figures



Extramammary Paget's



Extramammary Paget's Disease

- Slow growing neoplasm that occurs mainly in apocrine gland-bearing skin.
- Most common on vulva and perianal regions.
- A few cases involving the glans penis have been reported, and each was associated with an underlying GU neoplasm (bladder, prostate, periurethral gland).
- Presents with erythematous to brown raised scaly plaques.
- Histology shows large round cells with abundant cytoplasm and a large, central, reticulated nucleus throughout the epidermis. (“pagetoid scatter”)
- Treatment is usually surgical, though RT may be considered.

Traumatic Lesions

- Automobile accidents
- Gunshot wounds
- Burns
- Crush injuries
- Frostbite
- Suction/vacuum erection device
- Penile tourniquet syndrome
- Amateur circumcision
- Zipper entrapment
- Sexually induced
- iatrogenic