

The Sausage System

Hypospadias - Urethra opening on ventral of sausage

Epispadias - Urethra opening on dorsal of sausage

--these are associated w/ cryptorchidism

-- the urethral opening can be restricted = urinary tract obstruction, infection, can cause sterility if opening is closer to base of sausage.

Balanitis - inflammation of the of glans penis.

Balanoposthitis - An inflammation of the glans sausage and prepuce (foreskin).

Phimosis - Inability to easily retract the prepuce over the glans. (usually due to balanoposthitis)

Paraphimosis - can't retract prepuce

Carcinoma of the Sausage

Bowen disease: grayish-white solitary, plaque-like lesion of the shaft, 10% progression to invasive SSC; additional risk (33%) of LRT, GI or UT malignancy

Erythroplasia of Queyrat: erythematous patches on the glans penis

Bowenoid papulosis: venereally transmitted viral lesions of the shaft; reddish-brown papules

Neoplasms of the Sausage

SCC is type most common sausage cancer *but still uncommon* accounting for 0.25% of cancers in men.

Are you Uncircumcised, or have poor sausage hygiene? You may get SCC of Sausage

Locally infiltrative; 10% regional lymph nodes; 70% five-year survival

SCC = grey crusty papular lesion

HPV 16 / 18

Non-neoplastic Scrotal Enlargements

1. Hydrocele (serous fluid) in tunica vaginalis - Most common scrotal enlargement
2. Hematocele (blood)
3. Chylocele (lymph fluid)

Cryptorchidism

Failure of the testis to descend into the scrotum. Incidence 0.07-0.08% of males.

Normal Descent = coelomic cavity - pelvis - inguinal canals - upper scrotum (complete at birth to age one)

Consequences of Cryptorchidism

Sterility, increase in risk of testicular cancer, surgery (Orchiopexy may restore surgery but still have cancer risk).

Testicular Inflammation

Epididymitis - UTI gets way up there

Orchitis (general testes inflammation) caused by extension of UTI or mumps, TB

Testicular Neoplasms

95% are Malignant - Come from germ cells, 50% of these are Seminoma

Benign tumors arise from Sertoli or Leydig cells - able to secrete hormones

Types: Seminoma, Spermatocytic seminoma, embryonal carcinoma, yolk sac tumor, choriocarcinoma, teratoma.

NONSEMINOMATOUS germ cell tumors

Staging of Testicular Neoplasms

Stage I - confined to testis

Stage II - metastasis confined to retroperitoneal nodes below level of diaphragm

Stage III - metastasis beyond retroperitoneal lymph nodes

Tumor Markers Secreted by Germ-cell Neoplasms

Human chorionic gonadotrophin - secreted by Seminoma (10%), Choriocarcinoma (100%)

Alpha-fetoprotein - secreted by Yolk-sac tumor

Prostate Gland Pathology

Prostatitis

Inflammation of the prostate gland.

Classification of Prostatitis

Acute bacterial (associated with UTI)

Chronic bacterial (Chlamydia, ureaplasma)

Chronic ~~bacterial~~ - has bacteria similar to acute

Clinical Features of Prostatitis

If the prostate grows too large it may constrict the urethra and impede the flow of urine, making urination difficult and painful and in extreme cases completely impossible, *can serve as reservoir for UTI bacteria*

Dysuria

Increased urinary frequency (but less volume)

Fever and leukocytosis if acute

Reservoir for UTI

Nodular Hyperplasia -

Common, affects 90% of men by age 80

Hyperplasia of epithelial and stromal elements

Enlargement causing obstruction

Dihydrotestosterone (DHT) - stimulates proliferation in Nodular Hyperplasia

Clinical Features of Nodular Hyperplasia

Creates Urinary tract obstruction

Can't urinate normally

Increased risk of UTI

Complete obstruction can cause painful bladder distention & hydronephrosis

Prostate Carcinoma

Most common visceral cancer in men in the USA

Second most common cause of cancer death in men 50+ in USA

Common in 65-75+ years

Etiologic Factors in Prostate Carcinoma

Hormonal (does not occur if castrated before puberty) *ANDROGENS*

Genetic: 1st degree relative; blacks

Environmental: Saturated fat diet; geographic differences

Prostate Specific Antigen (PSA)

PSA is enzyme secreted by prostate that increases sperm motility.

If PSA is elevated (>4 ng/L) can indicate Prostatitis, nodular hyperplasia or Carcinoma

The Clinical Diagnosis of Prostate Cancer

PSA level

rectal examination

Transrectal sonography

Needle biopsy

Acid Phosphatase - secreted by prostate - levels are elevated if the cancer has extended past capsule or metastasized. Later stage prostate carcinoma = ↑ Acid phosphatase = later stage and worse prognosis.

Sexually Transmitted Diseases (STD)

Syphilis
Gonorrhea
Nongonococcal urethritis
Granuloma venereum
Chancroid
Trichomoniasis
Genital Herpes Simplex
Granuloma inguinale
Human Papillomavirus Infection

*Syphilis (lues)

Caused by Treponema pallidum
From sex or transplacental possible
2.5 cases/100,000; 30X more frequent in blacks

1° = Chancres
2° = mucocutaneous lesions
3° = Cardiovascular, Neurosyphilis
Gumma

Syphilis (lues)

1st: Chancre
2nd: Mucous patches, maculopapular rash, condyloma lata, iritis, hepatitis, renal injury
3rd: Aortitis, aneurysm, myocardial ischemia, neurosyphilis : Gumma
Congenital: stillbirth, infantile, or tardive forms

Tests for Syphilis

Cardiolipin – an antigen on *T. pallidum* test pos in 1-2 wks
Fluorescent and microhemagglutination test positive in 4-6 wks and remain indefinitely

*Gonorrhea

Caused by Neisseria gonorrhoeae
direct contact, oropharyngeal and anorectal infections also possible by direct sexual contact
Males: dysuria, ↑ frequency, mucopurulent urethral discharge (Pee out pus)
Untreated results in prostatitis, epididymitis, orchitis, urethral stricture
Can disseminate and create systemic problems (endocarditis, meningitis, arthritis)

Nongonococcal Urethritis

Most cases caused by Chlamydia trachomatis

* Most common STD in USA

Symptoms identical to gonorrhea but chlamydia can't be cultured like Neisseria
*Reiter syndrome: urethritis, arthritis, conjunctivitis, balanitis circinata, geographic tongue & aphthous stomatitis
can't pee, see, climb a tree.

Lymphogranuloma Venereum – don't study

Caused by Chlamydia trachomatis
Dirty countries, uncommon in USA

Painless vesicle at site of inoculation followed by bilateral inguinal (fluctuant) lymphadenopathy, suppurative fistulae and possible genital lymphedema

— lymphatic obstruction w/ lymphedema + strictures

Chancroid (Soft Chancre)

Caused by Haemophilus ducreyi
Common in African & SE Asia; rare but increasing in USA
Papule on on sausage ulcerates, is painful but remains soft
Inguinal lymphadenopathy develops (buboes) that may erode and drain onto the skin

→ inflamed inguinal lymph nodes erode the skin

Granuloma Inguinale

Caused by Calymmatobacterium donovani; rare in USA; common in tropical areas

Begins as a raised papule which ulcerates, proliferates and produces a painless mass that indurated

~~Untreated leads to lymphedema (elephantiasis)~~

Trichomoniasis

Protozoa; Trichomonas vaginalis

Usually asymptomatic infection in men, occasionally causes urethritis

Genital Herpes Simplex

Common infection estimated in 30 million; ½ million new each year

Most cases caused by herpes simplex type II

Painful vesicles, dysuria, and lymphadenopathy ; secondary attacks less severe

Neonatal herpes—rash, encephalitis, pneumonitis, hepatic necrosis - 60% of infants die

Human Papillomavirus Infection

Condyloma acuminata (venereal warts) HPV 6 & 11; papules (papillomas) on coronal sulcus or inner prepuce

Papillomatosis of the upper respiratory tract in infancy due to congenital HPV