VENEREAL DISEASE

AN OVERVIEW

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IMPORTANT

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Introduction

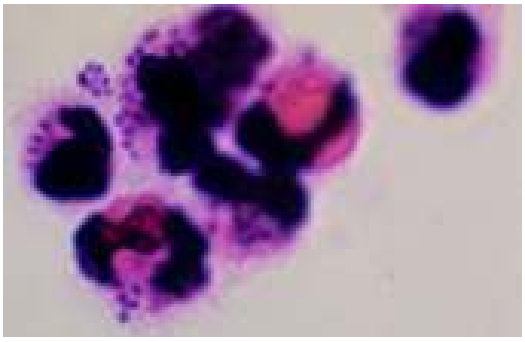
Sexually transmitted disease (STD), also called venereal disease, is a contagious disease usually caught by sexual intercourse or genital contact. These diseases are quite common.

Kinds of venereal diseases are gonorrhea, syphilis, chancroid, granuloma inguinale, lymphogranuloma venereum, scabies, herpes genitalis and anorectal herpes and warts, pediculosis, trichomoniasis, genital candidiasis, molluscum contagiosum, nonspecific urethritis, chlamydial infections, cytomegalovirus, and AIDS.

Disease profiles - Gonorrhea and syphilis

1) Gonorrhea

Gonorrhea is an acute, sexually transmitted infection of the epithelium of the genitalia, perianus, and pharynx.



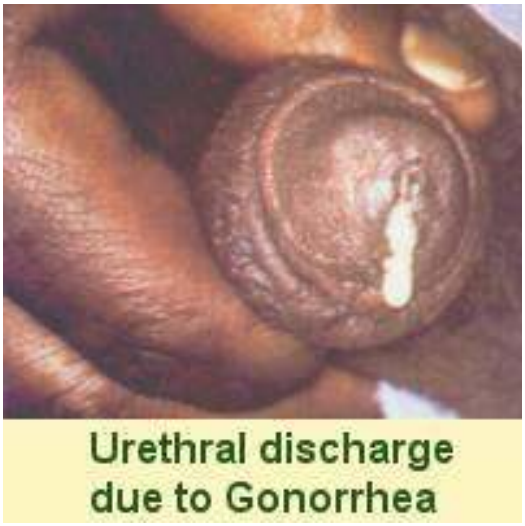
Causes and Incidence

Gonorrhea is caused by *Neisseria gonorrhoeae* and is one of the most frequently reported bacterial infections in the United Kingdom.

(Picture right - Gonorrhea Bacteria)

The peak incidence occurs between 20 and 24 years of age. Infants born to mothers infected with the disease can contract gonococcal ophthalmia during the passage through the vagina.

Disease Process


Urethral discharge due to Gonorrhea

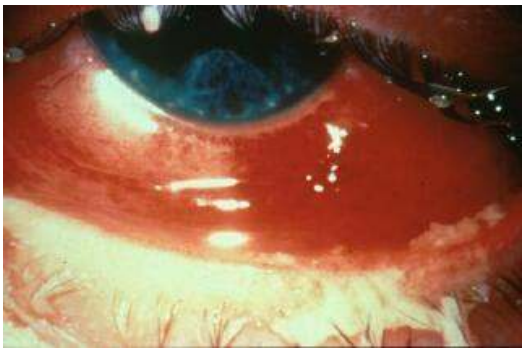
After intimate contact, the gonococcus attaches to and penetrates the columnar epithelium, producing a patchy inflammatory response in the submucosa with resultant exudate. In men, affected areas include the urethra, prostate, Littre's and Cowper's glands, and seminal vesicles. In women, affected areas include the urethra and cervix and Bartholin's and Skene's glands. The rectum, pharynx, and conjunctivae are vulnerable in both sexes. Direct extension of the infection occurs through the lymphatics to the epididymis and fallopian tubes. The inflammatory exudate is replaced by fibroblasts, producing fibrous tissue and strictures of the lumen of the urethra, epididymis, or fallopian tubes.

Symptoms

Male genitalia - Urethral pain; dysuria, purulent discharge; urinary frequency and urgency

Female genitalia - Usually asymptomatic; urinary frequency

Pharynx- Sore throat; dry, red tongue



Perianal - Anal itching, burning, and bleeding; pain on defecation; diarrhea; rectal discharge

Conjunctivae - Purulent discharge

(Picture right - Gonorrhea as noted in the eye)

Potential Complications

Complications arise with untreated disease and include pelvic inflammatory disease in women and epididymitis and urethral stricture in men. Both sexes may have disseminated disease, with pustular skin lesions, septicemia, endocarditis, meningitis, and arthritis.

Diagnostic Tests

The primary diagnostic tools are the clinical examination, a history of exposure to an infected partner, and a culture of the exudate that is positive for the organism.

Treatments

Surgery - None.

Drugs - Anti-infective drugs sensitive to the organism, following treatment guidelines of the Centers for Disease Control and Prevention.

General - Instruction about sexually transmitted diseases and the importance of completing all treatment; refraining from sexual activity until free of disease; tracing all potentially exposed sex partners.

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2) Syphilis

Syphilis is a contagious, sexually transmitted systemic disease characterized by sequential clinical stages with intervening years of symptomless latency.

Causes and Incidence

Syphilis is caused by the *Treponema pallidum* spirochete. The primary mode of transmission is sexual contact, although the disease may be transmitted transplacentally from an infected mother to her fetus. Syphilis is transmissible by blood in the incubation period and through intimate sexual contact in the primary and secondary stages. It occurs worldwide and is on the increase, particularly in women and neonates.

(Picture right - Syphilis Bacteria)

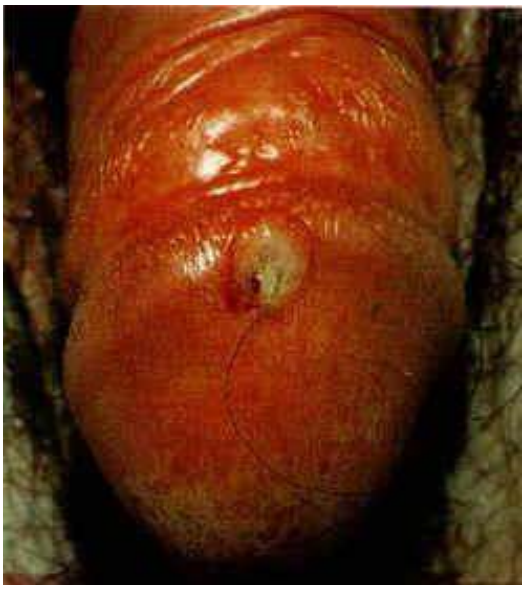
The peak incidence occurs among males 15 to 30 years of age with multiple sex partners. There is a striking relationship between syphilis and HIV-positive individuals; one fourth of the syphilitic population in some areas also have HIV.

Disease Process

Syphilis occurs in five distinct stages: incubation, primary, secondary, latency, and late. Incubation lasts 10 days to 10 weeks and begins with penetration of a mucous membrane by *T. pallidum.*

(Picture right - Female Syphilis)

Some spirochetes remain at the site, whereas others migrate to regional lymph nodes and then system-wide to all organ systems. The inflammatory response in the endothelial tissue produces perivascular infiltration of lymphocytes and plasma cells, causing edema of the endothelium and endarteritis in the capillaries and terminal arterioles. Vessels thicken as fibroblasts proliferate and cause fibrosis and necrosis. The primary stage is marked by the appearance of a single lesion (chancre) at the site of infection. Serum infiltration and accumulation in the associated connective tissue produce a firm, hard lesion. The lesion heals spontaneously in 1 to 5 weeks. Satellite lesions may form in adjacent tissue or in regional lymph nodes. Nodes are swollen and nontender. The secondary stage begins as the primary stage disappears and generally lasts 2 to 6 weeks. Parenchymal, systemic, and mucocutaneous processes occur throughout the body. After the second stage a 1- to 40-year latency period ensues, followed by the late stage, in which the cardiovascular and nervous systems degenerate.



(Picture right - Male Syphilis)

Symptoms

The disease can appear at any stage without manifestations from the previous stages.

Incubation

Asymptomatic; report of sexual contact with infected partner

Primary - Single lesion starting as a red papule and eroding into a painless ulcer that exudes a clear fluid; red areola around lesion; common sites include penis, anus, rectum, vulva, cervix, perineum, lips, tongue, buccal mucosa, and tonsils; swollen regional lymph nodes.

Secondary - Symmetric, pale red (in whites) or pigmented (in blacks) macules, papules, or pustules that predominate on flexor and volar body surfaces, particularly the palms and the soles of the feet; grayish white erosive patches on mucous membranes; patchy hair loss; generalized swelling of lymph nodes.

Latency - May see early mucocutaneous relapse signs but seldom after first year; asymptomatic period that may last rest of individual's lifetime or may move at any time to late stage.

Late - Lesions (gummas) of skin, bone, viscera, heart, and nervous system; lesions are indolent, increase slowly in size, and resolve slowly to painless ulcerations that scar on healing; deep, boring pain in bones with lump over involved site; dilation of ascending aorta with aortic insufficiency; meningovascular signs (e.g., headache, dizziness, confusion, lassitude, insomnia, stiff neck, blurred vision, aphasia, hemiplegia); mental deterioration, dementia, delusions; locomotor ataxia; body tremors; urinary retention; impotence; joint degeneration.

Rash of Syphilis

Potential Complications

Complications occur as a result of untreated disease; they include periostitis, Charcot's arthropathy, aortic regurgitation or aneurysm, meningitis, and widespread damage to the central nervous system, resulting in paresis or dementia paralytica.

Diagnostic Tests

Serology - Positive Venereal Disease Research Laboratory, rapid plasma reagin, automated reagin, or reagin screen tests useful for screening in primary and secondary stages (many false positive results with these tests); tests for fluorescent treponemal antibody (absorbed) and *T. pallidum* agglutination and microhemagglutination done to confirm positive screening tests (they become reactive in the early primary stage and remain reactive in latestage disease)

Darkfield Microscopy - Examination of exudate from lesion is positive for *T. pallidum* in primary and secondary stages
Treatments

Surgery - None

Drugs - Anti infective drugs to kill spirochete are effective at all stages

General - Mandatory report to local health authority; tracking of all sexual contacts; refraining from sexual activity until examination of exudates is negative; instruction about sexually transmitted diseases and the importance of completing the full antibiotic course, and of returning for all follow-up examinations.

End

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