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# Lecture

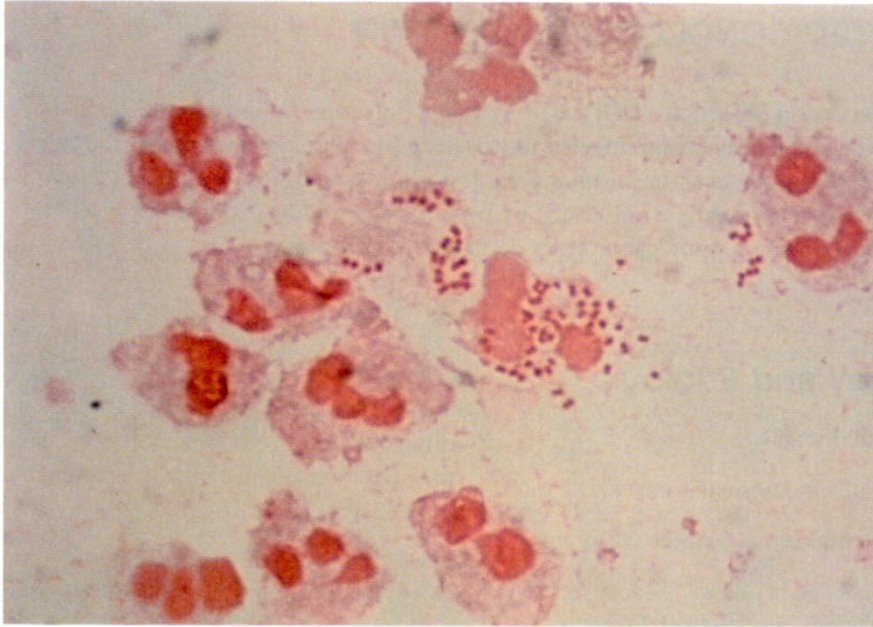
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## Gonorrhoea

*Gonorrhoea is an old bacterial disease that is almost exclusively acquired through sexual intercourse. It is among the most common and widely recognised STDs throughout the world.*

*Dr. K.H. Lau*

# Gonorrhoea



*Neisseria gonorrhoea*, a gram-negative intracellular diplococcus arranged in pairs with their apposing surfaces slightly flattened to produce the characteristic reniform shape. It primarily affects columnar epithelium in genital mucosal surfaces of the urethra, accessory ducts and gland, as well as endocervix.

# Course of gonorrhoea

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In virtually all cases transmission is the result of sexual contact.

Incubation period in men is usually 2 to 5 days.

Extreme cases can vary from 1-14 days.

Incubation period in women is difficult to estimate as many cases are symptomless.

# Pathogenesis

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- Neither congenital, nor acquired immunity to gonococcus develops in humans. The formed antibodies do not have defensive activity. Phagocytosis is complete, if gonococci were weakened by the use of drugs. The distribution of infection in the organism takes place through lymphatic and blood vessels. The pathogen cannot live in the blood as it has bacteriocidal properties.

# Classification

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Present classification of gonorrhoea:

- 1) **Fresh:**
  - a) acute,
  - b) subacute,
  - c) torpid
- 2) **Chronic**
- 3) **Latency**

# Clinical features of gonorrhoea

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Clinical features of gonorrhoea:

a) fresh acute gonorrhoeal urethritis (anterior, total) Incubation period, clinical manifestation. What contributes to the development of posterior urethritis and most acute forms of the process. Period of acute gonorrhoea;

b) fresh subacute gonorrhoea. Period of the disease (from 2 weeks to 2 months). Decrease in the intensity of the process;

c) fresh torpid gonorrhoea is characterized by sluggish progress, with less subjective feelings. Period of the disease is till 2 months.

d) chronic gonorrhoea is characterized by sparse clinical features. Period of the disease is more than 2 months;

# Varieties of gonorrhoea

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Gonorrhoea in small girls (for pediatricians). As a result of anatomical and physiological peculiarities of the genitals of small girls the inflammation of vulva, vagina, urethra, rectum may occur. In elder girls gonorrhoea is same as in women. Acute vulvovaginitis progresses with intense clinical signs.

Gonorrhoeal pharyngitis (for dentists). In sexual perversion there may be a development of gonorrhoeal pharyngitis and tonsillitis. Clinically resembles catarrhal and banal inflammation, almost without any subjective feelings. Can lead to gonococcal sepsis.



# Complications of gonorrhoea

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- ✓ Balanoposthitis,
- ✓ Phimosis,
- ✓ Paraphimosis,
- ✓ Tysonitis,
- ✓ Periurethral abscess,
- ✓ Littritis,
- ✓ Cowperitis,
- ✓ Prostatitis,
- ✓ Vesiculitis,
- ✓ Epididymitis,
- ✓ Urethral stricture,
- ✓ Cystitis.

# *Complications. Balanoposthitis.*



- **Balanoposthitis** The swelling of the prepuce in phimosis looks as an enlarged penis, which is red and painful. The hard chancre localized in such cases in the corona glandis or on the inner surface of the prepuce cannot be examined for *T. pallidum*. The diagnosis of syphilis is made easier by the characteristic regional lymph nodes whose aspirate is examined for the causative agent.

## *Complications. Phimosis.*



- Balanoposthitis may lead to constriction of the prepuce so that the foreskin cannot be retracted. This condition is called phimosis. The swelling of the prepuce in phimosis looks as an enlarged penis, which is red and painful.



## *Complications. Paraphimosis.*

An attempt to retract the prepuce in phimosis with force may lead to another complication called paraphimosis, in which the edematous and infiltrated preputial ring strangulates the glans. As a result of mechanical disorders of blood and lymph circulation, the swelling increases. Necrosis of the tissues of the glans penis and prepuce may occur if appropriate measures are not applied in time. In the initial stages of paraphimosis the physician removes the serous fluid from the swollen prepuce (by puncturing the thin skin with a sterile needle repeatedly) and attempts to 'reduce' the glans. If the manipulation proves ineffective, the prepuce must be cut.

# Complications. Cowperitis

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Cowperitis presents as fever, malaise and severe pain in the perineum with frequency, urgency, painful defecation, and sometime acute urinary retention. Rectal examination is agonizingly painful.

# Thysonitis, periurethral abscess, littritis

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- Thysonitis is an inflammation of thysonic glands.
- Periurethral abscess - presents as painful local swelling in the bulb or the fossa navicularis in the penis.
- Littritis – is an inflammation of littrius glands,
- Vesiculitis –is an inflammation of the seminal vesicle .

# Complications. Epididimitis

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*Epididymitis* - inflammation of the epididymis, was formerly encountered in gonorrhoea much more frequently than now. Gonococci evidently penetrate into the epididymis from the posterior urethra through the deferent duct, though it is quite possible that the infectious agent is brought here with the blood or lymph.

# Urethral stricture

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- Urethral stricture could lead to obstructive symptoms and damages as well as recurrent urinary infection, leading to renal failure. Stricture may occur anywhere in the urethra but most commonly in the bulb. It is diagnosed by anterior urethroscopy or by urethrogram.



# Prostatitis

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Prostatitis is uncommon as attacks are cut short by the use of antibiotics. Symptoms include fever, perineal discomfort, pain on defecation and variable urinary complaints. Rectal examination may show a large, tense and fluctuant mass bulging into the rectum.

# Prostatitis

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- **Catarrhal prostatitis** - when the inflammatory process is restricted to the excretory ducts there are no subjective disturbances and the disease takes an asymptomatic course.
- **Follicular prostatitis** - Spread of the affection to the lobules of the gland and the development of pseudoabscesses in them
- **Parenchymatous prostatitis** - involvement of the interstitial tissue into the process in an acute disease leads to more or less pronounced systemic disorders combined with symptoms of acute posterior urethritis

# Treatment of gonorrhoea

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Gonorrhoea is managed by means of antigonococcal agents (antibiotics and sulphanilamides), methods for stimulating specific and non-specific immunity, as well as by different methods of local therapy the character of which is determined by the localization and type of focal changes in the tissues and involved organs. In acute fresh uncomplicated gonorrhoea, antibiotic therapy only is applied. A complex of measures is needed in protracted, complicated and chronic forms.

# Treatment of chronic gonorrhoea

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Specific and non-specific immunotherapy (provocation) are used for treatment of chronic, complicated and torpid forms of gonorrhoea.

Specific immunotherapy includes polyvalent gonococcal vaccine (gonovaccine).

Non-specific immunotherapy consists of:

- a) lacto- and autohaemo- therapy
- b) pyrogenal therapy
- c) Chemical agents  $\text{AgNO}_3$
- d) Alimentary provocation (using alcohol, sharp food, etc.)
- e) Mechanical (introduction of metal bougies and tamponades)
- f) Physiological (women's month cycle)

Combined immunotherapy includes polyvalent gonococcal vaccine plus one of non-specific methods.

# Criteria of recovery from gonorrhoea

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The disappearance of the external signs of the disease after treatment does not serve as evidence that the causative agents have perished, because they may persist for a long time in some of the enclosed foci (latent gonorrhoea).

Full cure is determined in 7 to 10 days after completion of treatment. For this purpose combined provocation is carried out and then, 24, 48 and 72 hours later, smears are taken for bacteriological examination from the urethra and urine and the prostate secretion in males, and smears from the urethra, cervical canal and other involved organs in females. Whenever possible cultures are made simultaneously.

# Criteria of recovery from gonorrhoea

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In addition to bacteriological tests, urological (or gynaecological) examination is carried out to reveal inflammatory foci in the urogenital organs. The provocation and clinical examination are repeated in a month (females are examined during the next menstrual period). Individuals who have suffered from gonorrhoea are followed-up for two months (females for at least two menstrual periods).

Individuals who have suffered from gonorrhoea are considered healthy and therefore taken off the record in stable absence of gonococci in the smears and cultures, absence of inflammatory changes in the urethra and accessory sexual glands (prostate, seminal vesicles, Cowper's glands) in males, absence of pain or disturbances in the menstrual cycle and obvious changes on palpation in the internal sexual organs in females.