



SNS COLLEGE OF ALLIED HEALTH SCIENCES
SNS Kalvi Nagar, Coimbatore - 35
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DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE
TECHNOLOGY

COURSE NAME: GENERAL PATHOLOGY

I YEAR

UNIT IV: INFECTIOUS DISEASES

TOPIC 3: GONORRHOEA



Definition



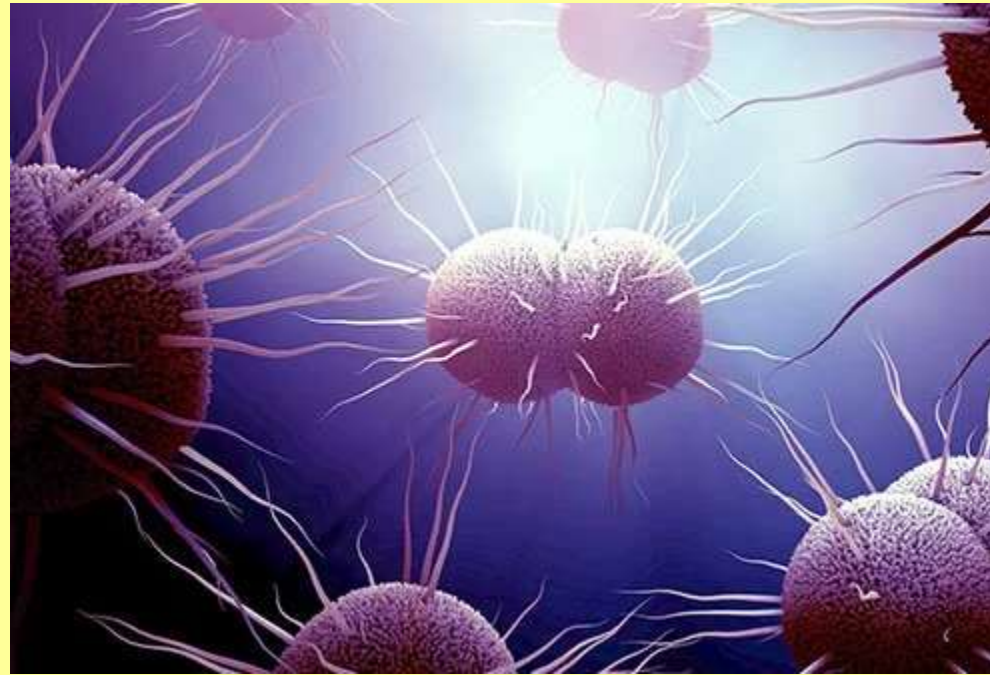
- According to **Center of Disease Control and Prevention**, gonorrhoea also called ‘clap’ or ‘drip’ is a contagious disease transmitted most often through sexual contact with an infected person.
- It can be spread by contact with **infected bodily fluid** so a mother can pass it on to her child.
- It is a commonly contracted **STI**



Microorganisms



- Gonorrhoea is caused by **Neisseria Gonorrhoeae** a bacterium that grows and multiplies easily in the mucus membrane of the body.





Incubation



- The incubation period for gonorrhoea is 2-14 days while most symptoms may appear between 4-6 days infection.

Incubation period

How long it takes an infected person to show symptoms





Structure



- Neisseria species are **Gram – negative cocci**
- **0.6 – 1.0 μm** in diameter
- The organism is usually **paired**, bean shaped
- **Pilli**, hair-like filamentous appendages are seen on the surface
- The outer membrane is composed of proteins, phospholipids, lipopolysaccharides

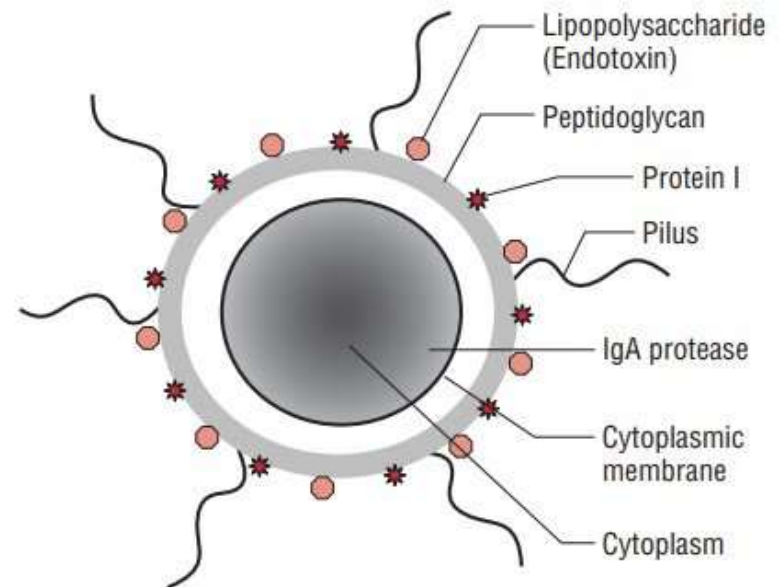
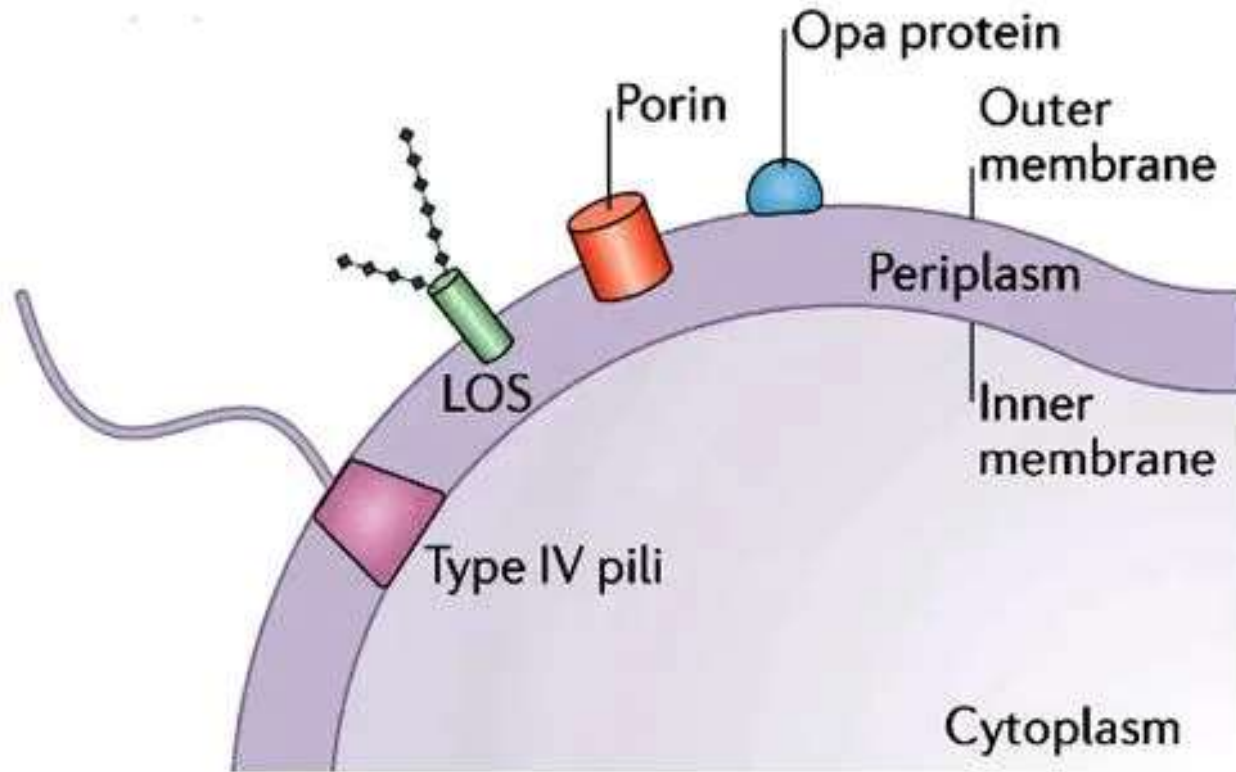


FIG. 26-1. Schematic diagram of *Neisseria gonorrhoeae*.

Virulence areas



Virulence Factors of *Neisseria gonorrhoeae*



Structures involved in Pathogenesis



- **Pilli** - for adherence
- **Opa protein** - for adherence
- **Porin** - Insertion into host cell membrane, target for opsonic antibody
- **Lipopolysaccharide** - Tissue toxin
- **Peptidoglycan** - Tissue toxin



Pathogenesis



- **Adherence** : adherence to mucosal cells
- **Invasion**: Organism is then pinocytosed by epithelial cells
- **Attachment of gonococci** to the non ciliated epithelial cells (impairs motility)
- **Tissue damage** : progressive mucosal damage and exudation of purulent material into the lumen of the infected organ
- **Dissemination**: Ability to resist the killing activity of antibody and complement

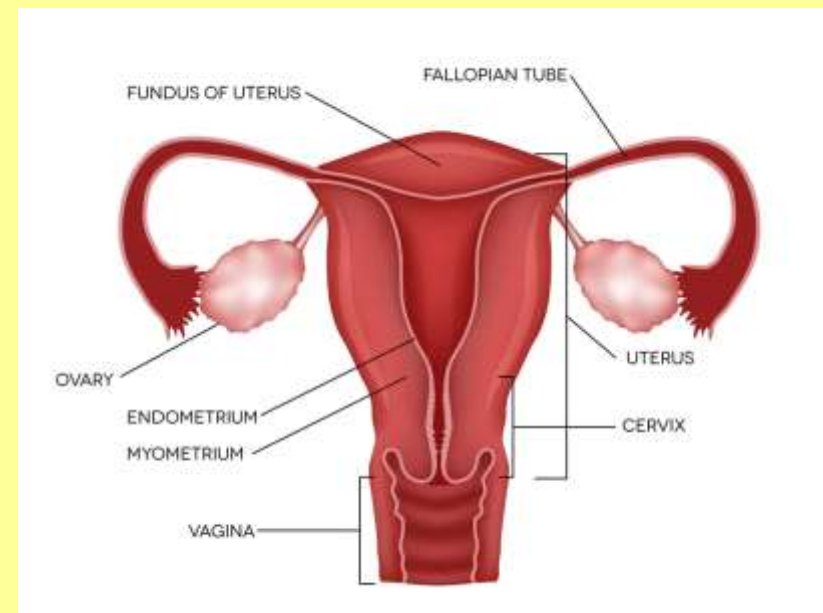


Areas of development



It grows in most areas of reproductive tract including,

- Cervix uterus
- Fallopian tubes
- Urethra
- Mouth, throat and anus





Infection on other sites



- Gonococcus conjunctivitis is rare
- Primary cutaneous infection are also rare, the areas include,

localized ulcers of genitals

perineum

proximal lower extremities

fingers



Gonorrhoea that affects the infants eyes during childbirth is referred to as ophthalmia neonatorum.

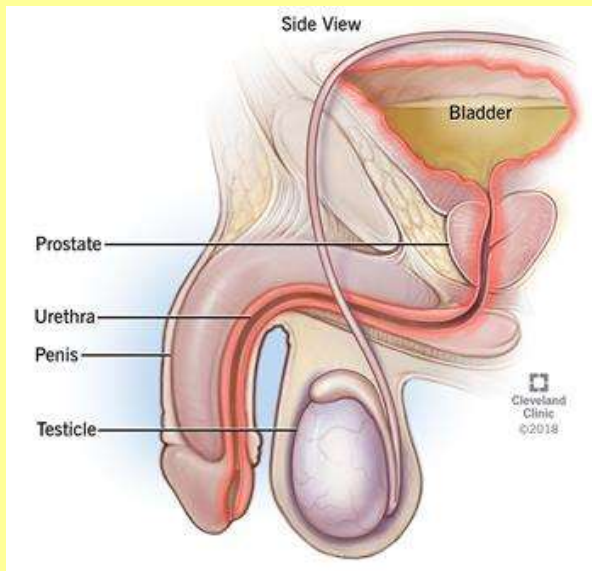


Signs and symptoms



Signs and symptoms of gonorrhoea infection in men include:

- Painful urination
- Pus-like discharge from the tip of the penis
- Pain or swelling in one testicle



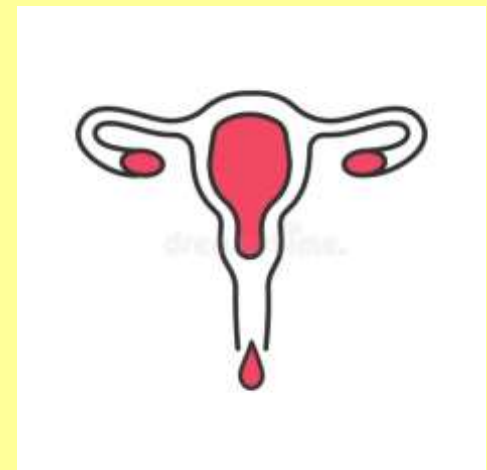


Signs and symptoms



Signs and symptoms of gonorrhoea infection in women include:

- Increased vaginal discharge
- Painful urination
- Vaginal bleeding between periods, such as after vaginal intercourse
- Abdominal or pelvic pain





Complications



- **Infertility in women** - Gonorrhoea can spread into the uterus and fallopian tubes, causing pelvic inflammatory disease (PID)
- **Infertility in men.** Gonorrhoea can cause a small, coiled tube in the rear portion of the testicles where the sperm ducts are located (epididymis) to become inflamed (epididymitis).





Complications



- **Infection that spreads to the joints and other areas of your body** – can spread to blood stream Fever, rash, skin sores, joint pain, swelling and stiffness are possible results.
- **Increased risk of HIV/AIDS**
- **Complications in babies** - Babies who contract gonorrhoea from their mothers during birth can develop blindness, sores on the scalp and infections





Diagnosis

Laboratory Diagnosis

- Gram Staining
- Culture

Serological Diagnosis

- Complement fixation
- Immunofluorescence
- Enzyme linked immunoabsorbance





Treatment



- Appropriate antibiotic treatment will be given
- HIV Serology test is recommended



Assessment 1



- Neisseria species is gram positive or gram negative?
- Function of Pilli?
- What is the management of gonorrhoea?



THANK YOU