

Chlamydiaceae

General features

- Obligate Intracellular parasites (can survive only by establishing “residence” inside animal cells); because they can’t make ATP.
- Cannot be seen on Gram stain; because chlamydia peptidoglycan layer lacks muramic acid.
- Chlamydia cell wall contains few amounts of lipopolysaccharides.
- Dimorphic Growth, Chlamydia has two forms of growth :
 - ✓ Elementary body: the infectious form, it has the attachment proteins required to attach to the host cell, and it’s more stable.
 - ✓ Reticulate body (also named inclusion or initial body): once chlamydia gets into the host cell it converts to the reticulate form, it’s the replicative form of Chlamydia.

Chlamydia trachomatis

- Common cause of sexual transmitted diseases (STDs) worldwide, causing nongonococcal urethritis, Prostatitis, vaginitis, cervicitis, and PID (pelvic inflammatory disease) which may lead to infertility.
- Babies delivered through birth canals infected with this organism develop inclusion conjunctivitis. Conjunctival inflammation with a purulent yellow discharge and swelling of the eyelids.
- This organism causes Trachoma, a type of chronic conjunctivitis that may cause blindness after years if not treated.

Chlamydophila Pneumoniae

- Pulmonary infection that causes mild to severe atypical pneumonia (atypical pneumonia patients appear more often with a dry cough, fever, and are less sick appearing than those infected with “typical” pneumonia).

Diagnosis

- Chlamydia cannot be cultured on inert media because it is an obligate intracellular parasite, so it must be cultured on a tissue culture (McCoy tissue culture).
- Serological test (the presence of anti-chlamydial IgM antibodies)
- PCR test (Polymerase Chain Reaction test).
- Chlamydia has NO vaccine.