

Lecture no fifteen

Chlamydia

Species: *C. psittaci*, *C. pneumonia*, *C. trachomatis*

Like, elementary body/spore

Disease

Chlamydia begins when *psittacosis* cause *P. psittacosis*, *C. trachomatis* causes eye respiratory and genital tract infections. *C. trachomatis* is the most common cause of sexually transmitted disease. pneumonia called TWAR cause atypical pneumonia

Important properties

Chlamydia are obligate intracellular bacteria, *C* have a replication cycle such as different from that of all other bacteria. The cycle begins when the extracellular metabolically inert, spore-like elementary body enters the cells and reorganizes into a large metabolically active reticulate body. The latter undergoes repeated binary fission to form daughter elementary bodies. Which are released from the cell within the cells, the site of replication appears as an inclusion body, which can be stained and visualized microscopically. These inclusions are useful in the diagnosis of these organisms in the clinical specimens laboratory.

L.D

*C* form cytoplasmic inclusion, which can be seen with special stain Giemsa stain or by immunofluorescence. The gram stain is visualized and is not useful. In exudates the organisms can be identified with epithelial cells. By fluorescent antibody staining or hybridization with a DNA probe. Can be grown in cell cultures treated with cycloheximide which inhibits host cell but not chlamydia protein synthesis. In culture *C. trachomatis* forms inclusions containing glycogen whereas *C. psittaci* and *C. pneumonia* form inclusions that don't contain glycogen. The glycogen-filled inclusions are visualized by staining with iodine.

Treatment

All are susceptible to tetracycline and erythromycin.