

Chlamydia

General:

Chlamydia belong to small bacteria, they grow obligatorily intracellularly and some Chlamydia belong to sexually transmitted diseases (STDs). Transmission also occurs through animals. A chronic process with slight symptomatology is typical for this disease; therefore diagnoses are provided too late or the infection is not detected at all. Sexually transmitted Chlamydia are of importance as they represent the most frequent venereal disease. Infection leads to an antibody reaction after 6-8 weeks. The most important human pathogenic Chlamydia are *C. trachomatis*, *C. pneumoniae* and *C. psittaci*.

Chlamydia trachomatis: 18 serotypes of *C. trachomatis* are known today. In tropical countries the trachoma (chronic inflammation of the conjunctiva with following scar contracture of the conjunctiva and loss of sight in 10-30 years caused by serovar A, B, Ba and C) and Lymphogranuloma venereum (rarely in Europe, primary lesion with ulcera, without symptoms, cervicitis and urethritis possible). Secondary stage with red and painful lymphadenitis, inguinal bubonic formation with fever. Tertiary stage with fistula, genital stricture and elephantiasis. The frequent non-specific genital infections (partner infections) and the urethral syndrome are transmitted sexually (serovar D-K) and also cause inclusion conjunctivitis, conjunctivitis of the newborn.

Infections in females: Clinical symptoms are variable and present as slight discharge up to abdominal complaints. Other symptoms include urethritis, cervicitis, endometritis, salpingitis (subacute), peritonitis, perihepatitis, and conjunctivitis. *C. trachomatis* infections can result in reactive arthritis, female infertility or extrauterine pregnancy.

Infections during pregnancy: The genital Chlamydia infection by *C. trachomatis* serotype D-K represents the most frequent STD in women at age between 15 to 25 years. One consequence is a Chlamydia-caused cervicitis during pregnancy, (frequency approximately 5%) resulting in premature birth risk and neonatal infection (see below).

In case of a positive test result treatment with macrolides, e.g. erythromycin-ethylsuccinate should be applied orally, 4 x 500 mg as soon as possible but not before the end of the 14th gestational week. Thus, an infection sub partu is prevented by the stabilization of the uterine tract. A treatment of the partner is necessary as with all STDs.

Infections in the newborn: About 20-40% of the children from women with Chlamydia cervicitis develop - without therapy - conjunctivitis which can become chronic, and up to 20% develop pneumonia, pharyngitis or otitis media. Infection risk of the newborn by vaginal birth is about 50%, half of the infections in newborns are asymptomatic.

Infections in males: Urethritis with slightly purulent discharge. Prostatitis, epididymitis, proctitis.

Chlamydia psittaci: Infectious agent of the rare ornithosis (synonyms psittacosis, parrot disease), are transmitted by dust from birds (more than 130 types) and from other animals. In this context poultry (ducks, turkeys) are considered as important source of transmission. The clinical picture usually impresses with relapsing atypical courses of pneumonia. Occupational infections are of importance, e.g. among bird breeders or among employees of poultry abattoirs.

Chlamydia pneumonia: This type of Chlamydia causes mostly mild respiratory infects such as bronchitidae, newborn pneumonia or atypical pneumonia. Associations with other diseases were described: asthma, chronic obstructive lung diseases, erythema nodosum, sarcoidosis, myocarditis, CHD, heart attack.

Therapy recommendations: Tetracycline, doxycycline, during pregnancy or in small children: erythromycin. Alternative antibiotics: clindamycin, ciprofloxazin, ofloxazin, amoxicillin, sulfonamide. No effect of cephalosporines.

The following tests are available:

- **Chlamydia trachomatis IgA antibodies**

Indication: unclear genitourinary infection, rheumatoid disease

Material: 1 ml serum

TAT: 7-10 days*

Method: EIA

Units: Index

Ref.- range: see report

- **Chlamydia trachomatis IgG antibodies**

Indication: unclear genitourinary infection, rheumatoid disease

Material: 1 ml serum

TAT: 7-10 days*

Method: EIA

Units: U/ml

Ref.- range: see report

- **Chlamydia trachomatis antigen test**

Material: dry swab

TAT: same day, FML

Method: EIA

Ref.- range: see report

- **Chlamydia trachomatis DNA**

Indication: Differential diagnosis in genitourinary infections, unclear conjunctivitis, and confirmation of a positive screening report (see above).

Material: dry swab, first morning urine, Thin Prep

TAT: 7-10 days*

Method: Special Chlamydia PCR kit (please call the lab) or dry swab

Urine: Fill approx. 15 ml first stream morning urine at least 3 hours after the last emptying of the bladder into sterile tube. No additional substances may be used in the transport container (do not use any glass container, do not use Uricult!).

Units: PCR

Ref.- range: see report

- **Chlamydia pneumoniae IgA antibodies**

Indication: suspicion of atypical pneumonia, unclear genitourinary infection, rheumatoid disorder, confirmation of positive screening, therapy control

Material: 1 ml serum

TAT: 7-10 days*

Method: EIA

Units: Index

Ref.- range: see report

- **Chlamydia pneumoniae IgG antibodies**

Indication: suspicion of atypical pneumonia, unclear genitourinary infection, rheumatoid disorder, confirmation of positive screening, therapy control

Material: 1 ml serum

TAT: 7-10 days*

Method: EIA

Units: Index

Ref.- range: see report

- **Chlamydia pneumoniae DNA**

Indication: respiratory infections, suspicion of atypical pneumonia, investigation of arteriosclerotic plaques

Material: dry swab, BAL

TAT: 7-10 days*

Method: PCR

Ref.- range: see report

- **Chlamydia psittaci IgA antibodies**

Indication: suspicion of psittacosis

Material: 1 ml serum

TAT: 7-10 days,*

Method: IFT

Units: Titer

Ref.- range: <1:32

- **Chlamydia psittaci IgG antibodies**

Indication: suspicion of psittacosis

Material: 1 ml serum

TAT: 7-10 days*

Method: IFT

Units: Titer

Ref.- range: <1:64

- **Chlamydia psittaci IgM antibodies**

Indication: suspicion of psittacosis

Material: 1 ml serum

TAT: 7-10 days*

Method: IFT

Units: Titer

Ref.- range: <1:20

- **Chlamydia psittaci DNA**

Indication: suspicion of psittacosis

Material: 2 ml EDTA plasma

TAT: 7-10 days*

Method: PCR

Ref.- range: see report

- **Chlamydia heat shock protein**

Indication: suspicion of tube damage, suspicion of chronically persisting Chlamydia infection, sactosalpinx, infertility

Material: 2 ml serum

TAT: 7-10 days*

Method: EIA

Units: cut-off-index

Ref.- range: <0.9

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>