

# The importance of chlamydia and mycoplasmas in perinatology

## Chlamydia

- obligatory intracellular small Gram-negative bacteria;
- ***Chlamydia trachomatis***
  - most common cause of sexually transmitted infections, mostly asymptomatic;
  - diagnosis: gold standard – culture on epithelial cells, PCR from smear;
  - infections during pregnancy: urethritis, cervicitis, salpingitis → treatment: azithromycin or amoxicillin;
  - perinatal complications: increased risk of premature birth and premature outflow of amniotic fluid (PPROM); chronic salpingitis → infertility and increased risk ectopic pregnancy;
  - child infection: conjunctivitis, pneumonia; asymptomatic colonization of the nasopharynx, rectum or vagina;
    - pathogenesis: infection during childbirth, rarely during rupture of the fetal membranes (PROM) before caesarean section;
    - **conjunctivitis of the newborn** typically between the 5th and 14th day of life (between the 2nd and 5th day of life is the typical *Neisseria gonorrhoeae* conjunctivitis);
    - **neonatal/infant pneumonia** typically between 4 and 12 weeks of life; first, nasal obstruction/nasal secretions, cough, respiratory distress, X-ray of the lungs (atypical pneumonia – lung hyperinflation, bilateral diffuse interstitial or alveolar infiltrates), eosinophilia in the blood count;
    - treatment: p.o. erythromycin or azithromycin.<sup>[1][2]</sup>

## Mycoplasma

- the smallest free-living organisms; they have an extremely small genome;
- do not have a cell wall → naturally resistant to beta-lactam antibiotics;
- ID: PCR; demanding sample transport conditions (special transport media) → cultivation is not routinely performed;
- *Mycoplasma pneumoniae*, *Mycoplasma hominis*, *Mycoplasma genitalium*, *Ureaplasma urealyticum* and *Ureaplasma parvum*
- ***Ureaplasma urealyticum***
  - pregnant infections: asymptomatic colonization of the lower genital tract (vulva, vagina, cervix);
  - perinatal complications: premature birth, premature ejaculation (PPROM), intra-amniotic infection, postpartum fever and endometritis;
  - child infection: **congenital pneumonia, bacteremia, meningitis**, bronchopulmonary dysplasia/chronic lung disease (controversial).
    - pathogenesis: ascending intrauterine infection, passage through the infected birth canal, hematogenous dissemination through the placenta → colonization of the skin, mucous membranes and respiratory tract; possibly dissemination to the bloodstream and CNS.<sup>[3][4]</sup>

## Notes

*Chlamydia pneumoniae* and *Mycoplasma spp.* are common causes of atypical pneumonia in school-age children and young adults, but have not been described in neonates.<sup>[4]</sup>

## References

### Related Articles

- Chlamydia • Chlamydia trachomatis • Chlamydia pneumoniae • Chlamydia genital infections
- Mycoplasma • Mycoplasma genital infections • Atypical pneumonia • Sexually transmitted infections

### External links

- H. Heřman: CHLAMYDIOVÉ INFEKCE V GYNEKOLOGII A PORODNICTVÍ (2005) (<https://www.levret.cz/publikace/casopisy/mb/2005-6/?pdf=112>)

## References

1. GOMELLA, TL, et al. *Neonatology : Management, Procedures, On-Call Problems, Diseases, and Drugs*. 7. edition. Lange, 2013. pp. 581. ISBN 978-0-07-176801-6.
2. POLIN, Richard – SPITZER, Alan. *Fetal and Neonatal Secrets*. 3. edition. Elsevier Health Sciences, 2013. pp. 345-346. ISBN 9780323091398.
3. GOMELLA, TL, et al. *Neonatology : Management, Procedures, On-Call Problems, Diseases, and Drugs*. 7. edition. Lange, 2013. pp. 930. ISBN 978-0-07-176801-6.

4. POLIN, Richard – SPITZER, Alan. *Fetal and Neonatal Secrets*. 3. edition. Elsevier Health Sciences, 2013. pp. 366. ISBN 9780323091398.