Chlamydia diagnostics
Clinical manifestations

Chlamydia trachomatis
Acute infections  急性泌尿生殖道感染
- Acute urogenital infections in women are mostly shown up as cervicitis (inflammation of the cervix uteri) and in men as urethritis

Chronic infections  慢性感染－症狀不明顯
- Clinical symptoms are absent or only weakly present, particularly in women (70-80%, in men around 50%)
  ⇒ Ascension of pathogen into the upper genital tract and development of chronic infection
  ⇒ Severe inflammation with occlusion of fallopian tubes possible
盆腔炎(Pelvic Inflammatory Disease PID: inflammation of upper female reproductive organs)
C. trachomatis: Serotypes D-K (3)

Late consequences of chronic infection (serotypes D-K)

- Reactive arthritis (Chlamydia-induced arthritis CIA)
  In 1-3% of patients with urogenital C. trachomatis infection (inflammatory reaction via metabolically active pathogen in joints)

- Sterility in women
  (≤40% of women with untreated C. trach. infections get PID → Of those 20% will become infertile)

- Fertility problems in men
  (chronic epididymitis)

女性不孕症
男性生育能力
反應性關節炎

Source: http://iahealth.net/
C. trachomatis: Serotypes D-K (4)

Complications during pregnancy (Premature delivery/amniorrhexis)

60-70% of infections are transmitted during delivery

 Conjunctivitis
Rare: neonatal pneumonia

Routine examination of pregnant women is important

懷孕期間併發症-早產/羊膜破裂

垂直感染-生產時

結膜炎
Chlamydia trachomatis Diagnostics (2)

Serotypes D-K:

Acute infection
Urogenital; conjunctivitis, pregnancy complications, newborn conjunctivitis or pneumonia

Method of choice (particularly during pregnancy) Helpful

Direct detection (PCR) from smear, first-stream urine
Serology IgA, G, M (significant titer increase)

Chronic infection
Upper genital tract; reactive arthritis

Helpful, useful

Serology IgA, G

Infection?

Direct detection (PCR) laparoscopy; joint aspiration

Clinical picture (Symptoms)
### Anti-C. trachomatis ELISA: Prevalence

<table>
<thead>
<tr>
<th>n</th>
<th>Panel</th>
<th>Anti-C. trach. positive results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IgA</td>
</tr>
<tr>
<td>100</td>
<td>Patients positive by direct detection</td>
<td>54%</td>
</tr>
<tr>
<td>134</td>
<td>High-risk group</td>
<td>16%</td>
</tr>
<tr>
<td>54</td>
<td>Patients with reactive arthritis</td>
<td>6%</td>
</tr>
<tr>
<td>250</td>
<td>Pregnant women</td>
<td>7%</td>
</tr>
<tr>
<td>88</td>
<td>Children (0-10 years old)</td>
<td>0%</td>
</tr>
<tr>
<td>500</td>
<td>Healthy blood donors</td>
<td>6%</td>
</tr>
</tbody>
</table>

- Much higher Ab prevalence (IgA, G, M) in patients with a proven C. trachomatis infection and in the high-risk group
- Also a higher prevalence in patients with reactive arthritis than in healthy blood donors
Clinical manifestations

Chlamydia pneumoniae
Chlamydia pneumoniae

- ~50% of infections proceed asymptotically or may cause a mildly sore throat
- All other cases of infections are mainly characterized by persisting cough, headache and fever
- Possible diseases:
  - Bronchitis
  - Pharyngitis
  - Sinusitis
  - Otitis media
- ~10% of cases of community acquired pneumonia are typical or atypical C. pneumoniae infections
- Chronic illnesses associated with C. pneumoniae are:
  - Bronchial asthma
  - Coronary heart diseases
  - Atherosclerosis
Chlamydia pneumoniae Diagnostics (2)

**Serology**

- Determination of IgA, IgG and IgM is the method of choice → MIF (micro immune fluorescence test) is still gold standard
- Detection of IgM in primary infection (children); in case of adults most often only IgA together with IgG are detectable
- High IgG and IgA prevalence: Therefore detection of an acute infection is only possible via a clear increase in titers or seroconversion (paired samples taken at an interval of at least 3 weeks)
- Therapy monitoring by means of serology is of limited use, since antibody concentrations do not correlate with response to treatment.
Thank you for your attention!