ANTIBIOPROPHYLAXIS DURING ABORTION
Post abortion infection after surgical abortion

- Rate: 0.01 to 22% depending on the studies

This variability is explained by the imprecision of the diagnostic criteria of PID

→ Objective criteria: fever > 38°, the rate of infection is between 0.01 to 2.44%.

→ Fever PLUS pelvic pain, tenderness, pain during pelvic examination (WHO study): rate of post abortal infection: 1%

Post abortion infection after medical abortion

- Infection rate: 0.3 to 0.9%
- "Toxic shock syndrome" due to Clostridium, unusual, described in USA and Canada; no evidence for antibioprophylaxis to prevent these cases.
- Danish study of 40,000 abortions: Rate of 1.7%, the same as after surgical abortion.

Risk factors for post abortion infection: previous infection

- STI: Chlamydiae Trachomatis or Neisseria Gonorrhoeae
- Bacterial vaginosis

IUD insertion during surgical abortion is NOT a risk factor of infection
Chlamydia Trachomatis

- **France**
  - Prevalence of *Chlamydiae Trachomatis* in general population (18 to 44 years old): 2.5%
  - In abortion centers prevalence is higher: 6.7%¹ to 9.7%² for *Chlamydiae Trachomatis* (0.7% for *N. Gonorrhoeae*)

- **USA**:
  - General population: CT is 2.5% (14-39 years old) and NG: 0.3%
  - Abortion: 11% for CT and 3% for NG

- Studies on antibiprophylaxis during abortion: 1.9% to 7.7%


The presence of Chlamydiae or N.Gonorrhoeae infection before the abortion increases the risk of PID

- Swedish study 1984: PID risk $\times 30$ and endometritis $\times 4$
- French study 1988 : PID risk $\times 9$
- Study EMGO in Amsterdam:
  - Low risk (0 to 4 %) if asymptomatic Chlamydiae infection
  - High risk 12 to 20 % if symptomatic Chlamydiae infection
  - Very high risk 27 à 72% if surgical abortion

Chlamydia Trachomatis

2 studies on the effect of antiibioprophylaxis in surgical abortion: stratified by presence of CT infection before the abortion

- In case of CT infection, reduction of PID incidence in post-abortum if antiibioprophylaxis targeted on CT (doxycycline or érythromycin) was given

- $RR = 0.14$  $95\% CI = 0.03-0.57$

Presence of bacterial vaginosis is a risk factor of PID

In anti-bioprophylaxis studies, rate of detection of bacterial vaginosis before first trimester surgical abortion: 17% to 36%

Few studies formally incriminate bacterial vaginosis as a risk factor of PID after surgical abortion

→ 4 randomised studies evaluated the efficacy of anti-bioprophylaxis against bacterial vaginosis: Only one study shows a reduction of the risk of PID

Three strategies to reduce the risk of PID after surgical abortion:

- Universal antibioprophylaxis
- « Screen and treat » strategy
- « Belt and brace » strategy
Efficacy of antibiotic prophylaxis

- Méta-analysis by Sawaya 1996:
  - 42% reduction of risk of PID
- Cochrane study 2012
  - 41% réduction of risk of PID
- Just one « real » study on universal Abprophylaxis (without any screening): 67% reduction risk
- Two classes of antibiotics have been shown to be effective: imidazoles and tetracyclines
- All protocols were shown to be effective

International Recommendations

- **WHO 2012**: Every woman must benefit of an antibioprophylaxis during surgical abortion
- **USA**: Doxycycline 100mg before abortion and 200 mg after orally or Métronidazole 500 mg×2/j during 5 days
- **Canada**: Doxycycline 100mg before abortion and 200mg after
• < 25 or at risk of STI
  → **Doxycycline** 100mg orally before abortion and 200mg after or **Azythromycin** 1g orally in case of intolerance to Doxy

• > 25
  → **Métronidazole** 500mg orally during the abortion and 500mg orally 4h and 8 h after

Universal antibioprophylaxis

- Required for centres where screening of STI is not routine (private clinics, some public centers …)
- In public centres in France: screening of STI is also a mission
« screen and treat » strategy (Sweden)

- STI and bacterial vaginosis screening for every women undergoing a surgical abortion
- As soon as the result is known (before the abortion + +), treatment of positive cases
- One study comparing ATB prophylaxis to screen and treat strategy
- Incidence of PID greater with « screen and treat » strategy (RR = 1.53; 95 % CI = 0.99 - 2.36)

<table>
<thead>
<tr>
<th>Avantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner notification and treatment <em>(risk of reinfection)</em></td>
<td>Cost</td>
</tr>
<tr>
<td>Counselling STI</td>
<td>Perfect organisation getting the results, contacting women to give treatment…</td>
</tr>
<tr>
<td>Avoid administration of antibiotics</td>
<td>Which pathogens?</td>
</tr>
</tbody>
</table>
« Belt and brace » strategy

- Reduce the risk of PID in post abortum AND testing women for STI
  - ANAES 2004: Screen Chlamydiae Trachomatis in women under 25 years consulting in Family planning services, abortions centres or IST centres
  - HAS 2010: Screen N. Gonorrhoeae in men and women consulting in Family planning services, abortions centers or IST centers
< 25 (screen and treat Chlamydiae trachomatis)

⇒ Métronidazole 500mg orally during abortion and 500mg orally 4h and 8 h after

> 25 (Bacterial vaginosis screening ?)

⇒ Doxycycline 100mg orally 1h before abortion and 200mg after or Azythromycin 1g orally + Métronidazole ?

NB : Screen N. Gonocorrhoeae : systematic or depending of the prevalence in particular populations ?
RCOG Recommendations

- Antibiotics and screening of Chlamydiae Trachomatis are recommended in surgical and medical abortion.
- Metronidazole for all women: 800mg orally before or during abortion, 1g rectally.
- In case of positive CT screening test:
  - Azithromycin 1g orally the day of abortion or
  - Doxycycline 100mg orally twice a day for 7 days after the abortion.
Antibioprophylaxis in medical abortion

- No randomised study
- Retrospective study in USA: reduction of severe genital infections after medical abortion (-76%) result of 2 interventions:
  - Changing route of administration of misoprostol
  - Doxycycline 100 mg during 7 day after mifepristone
- Risk reduction: 0.019 %
- Treat 5 000 women to avoid 1 case of severe infection

## Adherence

<table>
<thead>
<tr>
<th>Description</th>
<th>N=278 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any pills taken</td>
<td>97.5</td>
</tr>
<tr>
<td>Missed any doses</td>
<td>44.2</td>
</tr>
<tr>
<td>- Missed &gt;1 dose</td>
<td>29.1</td>
</tr>
<tr>
<td>- Missed 2 consecutive doses</td>
<td>9.7</td>
</tr>
<tr>
<td>More than 1 pill remaining at follow up</td>
<td>35.3</td>
</tr>
<tr>
<td>Extension of regimen (&gt;8 days)</td>
<td>9.3</td>
</tr>
<tr>
<td>Early termination of regimen (&lt;7 days)</td>
<td>34.3</td>
</tr>
<tr>
<td>Perfect Adherence*</td>
<td>28.3</td>
</tr>
</tbody>
</table>

*Perfect adherence defined as not missing any doses, had 0 or 1 pill left, took pills for 7 or 8 days*
The risk of infection in post-abortion period is very low (1%).

Demonstration of anti-infective prophylaxis efficacy in surgical abortion, not in medical abortion.

The magnitude of efficacy depends on the prevalence of STI in the population.
The integration of STI screening in universal antibioprophylaxis strategy must be evaluated concerning cost and efficacy.

Comparative studies are missing to know what is the best protocol of antibioprophylaxis.

We need better criteria to diagnose the presence of pelvic inflammatory disease.