INTRAUTERINE DEVICES AND INFECTIONS

Tips for Evaluation and Management
Objectives

At the end of this presentation, the participant should be able to:

1. Diagnose infection after IUD placement
2. Provide recommendations for management of pelvic inflammatory disease after placement of IUD
IUDs do not increase risk of PID

• In the 1970’s the Dalkon shield was associated with increase risk of PID and septic abortion
  – cause: design flaw → porous, multifilament string on which bacteria could travel

• Modern IUDs
  – Use monofilament strings
  – Excellent safety record

Can we prevent infection at time of IUD insertion?
Risks of infection

• Greatest risk in the first 20 days after IUD insertion
• Risk does not increase with prolonged use
• When counseling and reviewing instructions, always reinforce the use of condoms for STI prevention

Caddy S, et al. Best practices to minimize risk of infection with intrauterine device insertion. JOGC 2014;36(3):266-274.
Reducing Risk of Infection

• Patient selection, avoid IUD insertion if:
  • Current PID
  • Purulent cervicitis
  • Current known gonorrhea or chlamydia infection
  • Peri-partum chorioamnionitis, endometritis or postpartum sepsis
  • Immediate post-septic abortion

Screening for STI at the time of IUD insertion

• Most women do not require additional STI screening at the time of IUD insertion, if they have already been screened according to guidelines.

• If a woman with risk factors for STIs has not been screened, screening can be performed at the time of IUD insertion.
  • IUD insertion should not be delayed.
At the time of IUD insertion

- All women should be screened with history and physical exam
  - Sexual history
  - Pelvic exam
    - Assess for CMT during bimanual exam
    - If purulent discharge seen → test for infection prior placement and **do not** place the IUD

STI Screening and IUD insertion

- Screen high risk women for STIs
  - <25 years old
  - New sexual partner
  - >1 partner in last year
  - Prior history of STI within the past year
  - Sex partner who has an STI or has other partners

- You do not need to wait for the results before IUD insertion

Centers for Disease Control and Prevention Sexually Transmitted Diseases Treatment Guidelines 2015
Reducing Risk of Infection

• Procedure
  • No touch technique
  • Cleanse cervix
  • Use sterilized equipment
  • Avoid contamination of the device

Reducing Risk of PID

• Do not routinely screen for BV or treat asymptomatic infection
• Do not routinely use antibiotic prophylaxis

Caddy S, et al. Best practices to minimize risk of infection with intrauterine device insertion. JOGC 2014;36(3):266-274.
A word about special populations

• Adolescents
  – MEC category 2 $\rightarrow$ Generally can use
    • concerns for risk for expulsion in nulliparous women and for STD from sexual behavior

• HIV-positive women
  – Clinically well and receiving ARV therapy
    • MEC category 1 $\rightarrow$ Can use
  – Not clinically well or not receiving ARV
    • MEC category 2 (initiation) $\rightarrow$ Generally can use
    • MEC category 1 (continuation) $\rightarrow$ Can use

How do we diagnose and treat PID after IUD insertion?
Causes of PID

• Caused by polymicrobial infection
• Other risk factors:
  • Cervicitis (gonorrhea or chlamydia)
  • Poor handling of IUD / contamination
  • Bacterial vaginosis

Diagnosis of PID

Pelvic or lower abdominal pain, and one or more of:

• Cervical motion tenderness
• Uterine tenderness
• Adnexal tenderness

Diagnosis of PID

Enhancing specificity of diagnosis:

• Oral temperature > 101 F (>38.3 C)
• Abnormal cervical mucopurulent discharge* or cervical friability
• Abundant WBCs on saline microscopy of vaginal fluid
• Elevated erythrocyte sedimentation rate
• Elevated C-reactive protein
• Positive chlamydia and gonorrhea testing

Management of the IUD When a Cu-IUD or an LNG-IUD User is Found to Have Pelvic Inflammatory Disease

- Treat PID*.
- Counsel about condom use.
- IUD does not need to be removed.

**Woman wants to continue IUD.**

- Reassess in 24–48 hours.

**Clinical improvement**

- Continue IUD.

**No clinical improvement**

- Continue antibiotics.
- Consider removal of IUD.

- Offer another contraceptive method.
- Offer emergency contraception.

**Woman wants to discontinue IUD.**

- Remove IUD after beginning antibiotics.

- Offer another contraceptive method.
- Offer emergency contraception.

**Abbreviations:** Cu-IUD = copper-containing intrauterine device; IUD = intrauterine device; LNG-IUD = levonorgestrel-releasing intrauterine device; PID = pelvic inflammatory disease

*Treat according to the CDC Sexually Transmitted Diseases Treatment Guidelines (available at http://www.cdc.gov/std/treatment).

**Source:** For full recommendations and updates, see the U.S. Selected Practice Recommendations for Contraceptive Use webpage at http://www.cdc.gov/reproductivehealth/unintendedpregnancy/usspr.htm.
PID after IUD - Management

- The IUD does NOT need to be removed.
- Test for STIs (if not tested at the time of IUD insertion)
- Condom use counseling
- Initiate therapy
- Reassess the woman in 48-72 hours
  - If no clinical improvement occurs, continue antibiotics and consider removal of the IUD

PID after IUD insertion

• If the woman wants to discontinue IUD,
  – Remove the IUD sometime **after antibiotics have been started** (avoid the potential risk for bacterial spread resulting from the removal procedure)

• If the IUD is removed,
  – Consider Emergency Contraception
  – Counsel on alternative contraceptive methods
    • Insert Nexplanon, inject Depo Provera or start OC/Ring/Patch

Management of PID after IUD
Outpatient treatment

<table>
<thead>
<tr>
<th>Recommended intramuscular and oral regimens</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ceftriaxone</strong> 250 mg IM single dose</td>
</tr>
<tr>
<td>Plus <strong>Doxycycline</strong> 100 mg orally BID x 14 days</td>
</tr>
<tr>
<td>With or Without <strong>Metronidazole</strong> 500 mg orally BID x 14 days</td>
</tr>
<tr>
<td><strong>Cefoxitin</strong> 2 gm IM single dose</td>
</tr>
<tr>
<td>Plus <strong>Doxycycline</strong> 100 mg orally BID x 14 days</td>
</tr>
<tr>
<td>With or without <strong>Metronidazole</strong> 500 mg orally BID x 14 days</td>
</tr>
<tr>
<td>Other parenteral 3rd generation cephalosporin (ceftizoxime or cefotaxime)</td>
</tr>
<tr>
<td>Plus <strong>Doxycycline</strong> 100 mg orally BID x 14 days</td>
</tr>
<tr>
<td>With or without <strong>Metronidazole</strong> 500 mg orally BID x 14 days</td>
</tr>
</tbody>
</table>
PID after IUD – Follow-up

- Re-asses in 72 hours
  - If clinically improving
    - Reinforce to complete regimen
    - Reinforce condoms use for STI prevention
  - If no improvement
    - Hospitalization
    - Assessment of antibiotic regimen
    - Additional diagnostics

Management of PID after IUD

Criteria for inpatient treatment:

- Surgical emergencies cannot be excluded
- No clinical response after 72 hours of tx
- Unable to tolerate outpatient regimen
- Severe illness, nausea, vomiting or high fever
- Tubo-ovarian abscess
- Pregnancy

## Management of PID after IUD Inpatient treatment

<table>
<thead>
<tr>
<th>Recommended parenteral regimens</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cefotetan</strong> 2 g IV q 12 hours</td>
</tr>
<tr>
<td>Plus <strong>Doxycycline</strong> 100 mg orally or IV q 12 hours</td>
</tr>
<tr>
<td><strong>Cefoxitin</strong> 2 g IV q 6 hours</td>
</tr>
<tr>
<td>Plus <strong>Doxycycline</strong> 100 mg orally or IV q 12 hours</td>
</tr>
<tr>
<td><strong>Clindamycin</strong> 900 mg IV q 8 hours</td>
</tr>
<tr>
<td>Plus <strong>Gentamicin</strong> IV or IM loading dose (2 mg/kg), followed by a maintenance dose (1.5 mg/kg) q 8 hours Single daily dosing (3-5 mg/kg) can be substituted</td>
</tr>
</tbody>
</table>

## Management of PID after IUD Inpatient to Outpatient Treatment

<table>
<thead>
<tr>
<th>After 24 to 48 hours of clinical improvement, transition to:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cefotetan or Cefotixin</strong> plus <strong>Doxycycline</strong></td>
</tr>
<tr>
<td><strong>Doxycycline</strong> 100 mg orally BID to complete 14 days of therapy</td>
</tr>
<tr>
<td><strong>Clindamycin</strong> plus <strong>Gentamicin</strong></td>
</tr>
<tr>
<td><strong>Clindamycin</strong> 450 mg orally 4 times a day OR <strong>Doxycycline</strong> 100 mg orally BID to complete 14 days of therapy</td>
</tr>
</tbody>
</table>

When TOA is present

**Clindamycin** 450 mg po QID or **Metronidazole** 500 mg BID to complete 14 days
Management of an \textit{STI} with IUD in place

(not PID)
Management of STI with IUD in place

• If woman test positive for chlamydia or gonorrhea
  — Ok to keep IUD in place
  — Treat according to CDC treatment guidelines
  — Partner needs treatment
  — Condom use

## Treatment for Chlamydial Infection

### Recommended Regimens

<table>
<thead>
<tr>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azithromycin 1 g orally, x 1</td>
</tr>
<tr>
<td>OR Doxycycline 100 mg orally BID x 7 days</td>
</tr>
</tbody>
</table>

### Alternative Regimens

<table>
<thead>
<tr>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythromycin base 500 mg orally QID x 7 days</td>
</tr>
<tr>
<td>OR Erythromycin ethylsuccinate 800 mg orally QID x 7 days</td>
</tr>
<tr>
<td>OR Levofoxacin 500 mg orally QD x 7 days</td>
</tr>
<tr>
<td>OR Ofloxacin 300 mg orally BID x 7 days</td>
</tr>
</tbody>
</table>

### Treatment for Gonococcal Infection

#### Recommended Regimens

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceftriaxone 250 mg IM x 1</td>
<td></td>
</tr>
<tr>
<td><strong>PLUS</strong> Azithromycin 1 g orally x 1</td>
<td></td>
</tr>
</tbody>
</table>

#### Alternative Regimens (if ceftriaxone is not available)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefixime 400 mg orally x 1</td>
<td></td>
</tr>
<tr>
<td><strong>PLUS</strong> Azithromycin 1 g orally x 1</td>
<td></td>
</tr>
</tbody>
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Consider these scenarios:
Case 1

21 year old woman calls your office 24 hour after IUD placement with cramping and spotting. No fever, no foul smelling discharge:
- Reassure that cramping can occur immediately after placement and last for a few days
- Ibuprofen or Naproxen PRN pain
- Warning symptoms of infection
Case 2

33 year old woman calls your office 2 weeks after IUD placement with low grade fever and severe lower abdominal pain
- Prompt evaluation to diagnose PID
- Physical examination, possible lab evaluation
- If signs/ symptoms of PID → prompt treatment
Useful tools

Mobile Applications by the CDC
Available for iOS and Android

www.cdc.gov/std/tg2015/default.htm
www.cdc.gov/reproductivehealth/contraception/contraception_guidance.htm
Program Reminders

• Fax Master Z-CAN ID lists to 787-767-7781
• Send Supply Re-order forms and Patient Encounter forms to zcan@cdfoundation.org
• Next webinar: Wednesday, 2/1 @ 6pm