

## **URINARY TRACT INFECTION (UTI) IN PREGNANCY:** Asymptomatic Bacteriuria, Acute Cystitis, Acute Pyelonephritis

### DIAGNOSIS FOR ASYMPTOMATIC BACTERIURIA AND LOWER UTI:

- Diagnosis of infection:  $\geq 10^5$  colonies of a single pathogen/ml clean catch urine.
- E. Coli accounts for 80-90%
- Group B strep  $\geq 10^5$  colonies – treat as UTI
- Asymptomatic bacteriuria has 10% prevalence in pregnancy. If untreated leads to symptomatic cystitis in 30% pts and can develop into pyelonephritis in up to 50%. Associated with increased IUGR, preterm labor and low birth weight infants.
- ACOG recommends screening with urine culture at first prenatal visit (OB Intake) and 3<sup>rd</sup> trimester

### **Asymptomatic Bacteriuria**

- Treatment Options:
  - Duration: 7-10 days
  - Choices:
    - Ampicillin 500 mg QID (class B, 20-30% resistance)
    - Amoxicillin/clavulanic acid 500 mg PO BID (Cat. B)
    - Macrobid 100mg BID (Cat. B) (Don't use after 35 weeks if has G6PD)
    - Cephalexin 500 mg PO BID (or other cephalosporins Cat.B)
    - Fosfomycin (monurol) 3gm single dose (Cat.B)

**DO NOT use Fluoroquinolones, Tetracycline or Bactrim (trimethoprim antagonizes folic acid) during pregnancy! Avoid ceftriaxone (very high protein binding) the day before delivery (possibly displace bilirubin, greater chance of kernicterus). Amoxicillin alone needs to be guided by sensitivity due to increasing resistance.**

Urine culture only (no UA needed) within 7 days after completion of antibiotics (a test of cure), then repeated monthly until completion of pregnancy.

- Suppression Therapy:

Indicated for bacteriuria that persists after 2 or more courses of therapy:

- Macrobid 50 to 100 mg PO qhs, for duration of pregnancy.
- Keflex 250 to 500 mg PO qhs, for duration of pregnancy.

## **Acute Cystitis**

Treatment Options: same as for asymptomatic bacteriuria.  
Follow-up urine culture 1-2 wks after treatment.

### **Suppression Therapy:**

- Indicated for:
  - Pregnant women after 2 or more UTI's (+urine culture)
  - Pregnant women with conditions that potentially increase risk of urinary complications during UTI (eg, DM, sickle cell trait) after first UTI.
- Urine culture upon presentation to L&D.
- Consider urology evaluation, including IVP 6 weeks postpartum due to high rate of urinary tract abnormalities
- Options:
  - Same as suppression therapy for asymptomatic bacteriuria (one dose daily)
  - If recurrence thought to be related to intercourse: postcoital one single dose of Keflex 250 mg or Macrobid 50 mg. (Pregnant women with recurrent UTI prior to pregnancy apparently related to intercourse may also benefit from this regimen.)

## **Pyelonephritis**

- Outpatient Therapy: Generally not recommended as initial therapy. In selected patients (eg, absence of underlying medical conditions, anatomic abnormalities, pregnancy complications, or signs of sepsis): Ceftriaxone IM + Cephalexin.
- Inpatient treatment indications:
  - Signs of sepsis
  - Dehydration secondary to nausea/vomiting
  - Contractions
  - Presence of potentially complicating factors
- Admission for parenteral antibiotics (IV) until afebrile 24-48 hrs (no antipyretics). Then, oral therapy to complete 10-14 day course (guided by culture susceptibility).
- Begin with 2nd or 3rd generation Cephalosporin, pending cultures; consider ampicillin/gentamicin complicated cases.
- Suppression therapy for remainder of pregnancy (same as described above).
- If not improving, consider resistant organisms, repeat urine culture, and ultrasound to rule out stones, perinephric abscess and structural abnormality.
- Differential diagnosis includes appendicitis, cholecystitis.

### REFERENCE:

- J.E. Delzell American Family Physician Feb.2000; FP Obstetrics, 2<sup>nd</sup> Edition
- Hooton, Thomas M, and Walter E Stamm, MD. "Urinary tract infection and asymptomatic bacteriuria in pregnancy." UpToDate 15 May 2006.