When should UTIs be treated in the Elderly?

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UTIs in Patients >/ 65 yo

- Most common infectious illness [1].
- Urinary tract infections are responsible for 15.5% of hospitalizations [2]
- Women > Men (2:1)
- **Risk factors:** Incontinence (urinary or fecal), urinary retention, catheters, hospitalizations, care facilities, waning immunity, comorbidities (eg. DM), medications (eg. SGLT-2 inhibitors), vaginal atrophy, intercourse
- **Organisms:**
  - Gram-neg bacilli are most common (E. coli, Enterobacter spp, Klebsiella spp, Proteus spp)
  - More resistant = Pseudomonas aeruginosa, gram-pos organisms (eg. E. fecalis), gram-neg staph and GBS
- Presentation can be subtle and difficult to catch (eg. demented patients/impaired cognition)
Diagnostic Guidelines

- **Urine dipstick analysis**
  - Do not screen if asymptomatic
  - If low pre-test probability → to rule out UTI
    - NPV 92-100% [2]
    - In asymptomatic patient, a positive leukocyte esterase or nitrites do not rule in UTI
      - Clinically insignificant
      - High false positive rate

- **Urine Culture**
  - Only if UA positive for leukocyte esterase and/or nitrites
  - Send for culture and susceptibility
  - Positive if >10^5 CFU in 2 consecutive clean catch urine samples with <2 organisms

Recommendations from Infectious Disease Society of America
Classification

**Asymptomatic bacteriuria:**
- Urine culture grows $\geq 10^5$ CFU/mL
- 2 samples (clean-catch) required in women
- No indwelling catheter within 7 days

**Symptomatic UTI:** Cystitis, pyelo, sepsis, septic shock, or combination
- Positive urine culture with $\leq 2$ uropathogens + pyuria
- Defined by at least 2 of the following [4]*:
  - Fever $> 38$ C
  - Worsening urinary urgency/frequency
  - Acute dysuria
  - Suprapubic tenderness
  - CVA pain/tenderness

*Disclaimer: Clinical review based only on women $\geq 65$ yo
Therapy vs. No Therapy in Asymptomatic Bacteriuria

Current recommendation = no treatment for asymptomatic bacteriuria

Prospective randomized study\textsuperscript{[5]}:
- 50 elderly institutionalized women
- 2 arms:
  1. Checked urine culture monthly $\rightarrow$ Received abx every time if culture positive
  2. Checked urine culture monthly $\rightarrow$ No therapy unless patient had symptoms
- Followed for 1 yr
- Outcomes:
  - Lower prevalence of bacteriuria in arm 1, but no differences in GU morbidity or mortality
  - Increased risk of resistant organisms
  - Increased risk of reinfection
  - Increased risk of drug-drug interactions
  - Adverse effects from antimicrobials
Treatment of symptomatic UTI

- Always treat
- Antibiotic selection depends on location (upper vs. lower urinary tract)
- Acute uncomplicated cystitis (lower tract): 3-6 day course of abx is sufficient per systemic review done on antibiotic duration [6].
- Acute pyelonephritis (upper tract) requires a longer duration of antibiotics
  - Start broad → narrow based on susceptibility
  - Duration depends on abx selection → 7-14 days
• Urinary tract infections are common in the elderly
• Numerous risk factors and more resistant organisms
• Urinary dipstick analysis is good for low-test probability
• Current guidelines recommend against treating asymptomatic bacteriuria
• Treatment of asymptomatic bacteriuria is associated with increased risk of resistance, reinfection, drug-drug interactions, and antibiotic side effects in elderly population
• Treatment of symptomatic UTI depends on location of infection


