UW TASP tele-antimicrobial stewardship program | echo

UTI Part 2: Long Term Care Facilities

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Epidemiology

- In long-term care facilities (LTCF), UTIs account for approximately 30-40% of all healthcare associated infections
- Incidence: 0.1-2.4 cases per 1000 resident days
- UTI treatment represents 30-50% of antibiotic use in LTCF.
- Over the past several decades, over-treatment of suspected UTI with antimicrobials has led to several negative consequences including C. diff infections and development of MDROs.

Asymptomatic Bacteriuria

- More common in seniors >65 yo
  - 20% females / 10% males (vs 1-3% in younger pts)
- Increases with age >80yo: 50% F / 30% M
- Depends on place of residence:
  - Hospital > nursing home > home
  - Increased incidence with longer stay
  - Institutionalized elderly (no indwelling catheter): 25-50% F / 15-49% M

Asymptomatic Bacteriuria

Predisposing Factors in the Elderly:

- Diabetes
- Immobility
- Incontinence
- Prostatic enlargement
- Post-menopausal changes

Not associated with negative outcomes such as

- Pyelonephritis
- Sepsis
- Renal failure
- Hypertension

Practice Points

- Asymptomatic bacteriuria is a colonized state and NOT an infection
  - Antibiotics NOT indicated
- Bacteriuria and pyuria are expected findings in the elderly
- Symptomatic UTI is much less common than asymptomatic bacteriuria

Myths

The following are suggestive of UTI:

- Dark urine
- Foul-smelling urine
- Cloudy urine or sediment in the urine

FALSE

Do NOT send urinalysis or urine culture for these symptoms.

Myths

The following symptoms are suggestive of UTI:

- Dizziness
- New or frequent falls
- Decreased appetite
- Altered mental status or behavior alone

FALSE

Do NOT send urinalysis or urine culture for these symptoms.

Consider Broad Differential

- Dehydration
- New medications/drug interactions
- Sleep disturbances
- Sensory deprivation
- Trauma
- Hypoxia
- Hypoglycemia
- Infection other than UTI

So when do I test?

- CDC outlines criteria for diagnosing symptomatic UTI in long-term care facility patients
  - Based on McGeer criteria

- Distinguishes between patients with a catheter and those without

Patient without Catheter *

*or indwelling catheter removed >2 days prior to event

Assess UA/culture if these criteria met:

Situation 1:
- ❑ Acute **dysuria** alone

Situation 2: Febrile patient
- ❑ **Fever** (>100 F) or WBC (>14k or left shift)

AND

≧**1 or more** of the following
- ❑ CVA tenderness
- ❑ Suprapubic tenderness
- ❑ Visible (gross) hematuria
- ❑ New/marked increase incontinence
- ❑ New/marked increase urgency
- ❑ New/marked increase frequency

Situation 3: Afebrile patient

≧**2 or more** of the following
- ❑ CVA tenderness
- ❑ Suprapubic tenderness
- ❑ Visible (gross) hematuria
- ❑ New/marked increase incontinence
- ❑ New/marked increase urgency
- ❑ New/marked increase frequency

Lab/Micro Diagnostics:

Obtain urine culture
- ❑ Midstream, clean catch → ≧10^5 CFU/mL of a bacterium
- ❑ Straight cath (in/out) → ≧10^2 CFU/mL of a bacterium

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Patient with Indwelling Catheter *

*or catheter removed <2 days prior to event

Assess UA/culture if these criteria met:

Patient has ≧ 1 of the following:

- ❑ **Fever**
  - >100 F x1 or
  - >99 on repeated occasions or
  - >2 F above baseline
- ❑ Rigors
- ❑ New onset hypotension w/o alternative source
- ❑ New onset confusion/functional decline **AND** new leukocytosis
- ❑ New onset suprapubic pain or CVA tenderness
- ❑ Acute pain, swelling, tenderness of testes epididymis or prostate
- ❑ Purulent drainage from around the catheter

Lab/Micro Diagnostics: Obtain **urine culture**

Symptom-Free Pee: LET IT BE

Diagnosis of Suspected Urinary Tract Infection (UTI) in Non-Catheterized Residents of Long-term Care Facilities

PRACTICE POINTS:

- **UTI is a clinical diagnosis, not a laboratory diagnosis**
- **Dipsticks not recommended - poor diagnostic accuracy**
- **Urinalysis:**
  - **Presence of bacteria/nitrites and/or WBC not diagnostic of UTI as common finding in the elderly**
  - **Absence of WBCs in urine rules out UTI**
- **Do not start antibiotics before urine sample collected**
- **≥ 3 organisms typically implies contamination**

TYPICAL URINARY TRACT INFECTION SIGNS/SYMPTOMS:

- Acute dysuria and/or
- 2 or more of the following:
  - Fever
  - New urgency (or marked increase)
  - New frequency (or marked increase)
  - Suprapubic/flank pain
  - New urinary incontinence
  - Gross hematuria

Yes — Hemodynamic instability and/or mental status change

No — Hemodynamic instability and /or rapid mental status deterioration/delerium

Yes → **Contact healthcare provider for urgent management**

No → Urinalysis

WBC in urine

Leukocyte esterase negative/trace/small or WBC < 5/hpf

Leukocyte esterase moderate/large or WBC > 5/hpf

Urine culture
Note: For female patient, strongly recommend in/out catheter urine

- No pathogens reported → **UTI unlikely**
  - Consider alternative diagnosis
  - Rehydrate/push fluids (up to 1L) for 24hrs.
  - Reassess clinical condition
- ≥ 3 organisms or reported as mixed/ contaminated → **Contact healthcare provider if fever and/or flank pain**
  - Repeat with in/out catheter urine
  - Rehydrate/push fluids (up to 1L) for 24hrs.
- 1 or 2 uropathogens with susceptibility results → **Treat for UTI**

Fever/hypothermia
DO NOT ASSUME UTI
Assess for other infections:
- Respiratory tract
- Skin/soft tissue
- GI tract

Cognitive/functional changes
DO NOT ASSUME UTI
Consider/assess for:
- Dehydration
- Drug interaction/side effects
- Sleep disturbances
- Sensory deprivation
- Hypoxia
- Hypoglycemia
- Constipation
- Urinary retention
- Increased falls
- Worsening functional status
- New/increased functional behaviour

Foul smelling/ dark/cloudy urine alone

Typically indicates dehydration

- Rehydrate/push fluids (up to 1L) for 24hrs.
- Monitor every 6hrs.
- Reassess clinical condition.

For more directions and guidance:

AMMI™ Canada www.ammi.ca | #SymptomFreeLetItBe

Protocol Keeps Urinary Tract Infections at Bay

Medscape Medical News from the
American Association of Nurse Practitioners (AANP) 2015 National Conference

June 12, 2015

- Nurse/NP-driven protocol implemented in LTCF in New Orleans
  - 78%tile UTIs in national comparison
  - 10% residents had catheters (Most due to “bed bound” status or neurogenic bladder)

  “Plus, every time a patient sneezed, the nurses got a urinalysis.”
- Interventions:
  - Education of all nursing staff, including nursing assistants, who manage toileting and surveillance
  - No more standing UA orders. Required call to provider.
  - “Hydration and surveillance” / Alternative orders (next slide)
  - Discontinued inappropriate catheters

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Orders for Staff with Concern for Urinary Tract Infection:
Increase fluid intake: offer 120 mL water/juice every 2 hours (while awake) for 72h
Increase hygiene measures: cleanse anogenital area with soap & water after incontinence episode or toileting
Schedule toileting, diaper check/change every 2-4 hours (while awake)
Monitor temperature every shift for 72 hours
Monitor complaints of dysuria, urinary frequency, or flank pain and report to RN
Assess for bladder pain and retention
Perform dipstick* if 3 symptoms are present

*Use of urine dipsticks is controversial in LTCF

Often prescribed cranberry tablets twice daily

- Molecular interference with E coli pili in adhering to uroepithelium
- No significant benefit
- Cheap, easy, well-tolerated

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Results

- Decreased UTIs by 38% and catheter use by 50% in the first 3 months

Additional Considerations:

- Frequency of scheduled hydration and monitoring needs to be customized for each facility/patient
- Interventions are staffing dependent
- After decision made to treat for UTI, protocols to review antibiotic need after culture results return have been successful in discontinuing inappropriate antibiotics.

References

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