Nursing Homes—Diagnosing the Elderly: It’s NOT Always a UTI!

Overview and Introduction
Urinary Tract Infection (UTI)

- This is an infection involving any part of the urinary system, including urethra, bladder, ureters, or kidneys.
- UTIs are the most common type of healthcare-associated infections (HAIs) reported to the National Healthcare Safety Network (NHSN).
- Among UTIs acquired in the hospital, approximately 75 percent are associated with a urinary catheter, which is a tube inserted into the bladder through the urethra to drain urine.
- Between 15–25 percent of hospitalized patients receive urinary catheters during their hospital stay.

What is “catheter-associated urinary tract infection (CAUTI)?”

- If you have a urinary catheter, germs can travel along the catheter and cause an infection in your bladder or your kidney; this is called a CAUTI.

What are the symptoms of a UTI?

Common symptoms include:

- Burning or pain in the lower abdomen (below the stomach)
- Fever
- Bloody urine, which may be a sign of infection but is also caused by other problems
- Burning during urination or an increase in the frequency of urination after the catheter is removed

Sometimes people with CAUTI do not have these symptoms of infection.

Assessing Your Patients for UTI
Creating a Baseline

- What is their activity level?
- Are they fatigued?
- What is their temperature?
- What is their cognitive status?
- Are they having pain?
- Has anything changed?
Detecting an Infection: Change in Condition
- New or increased confusion
- Incontinence
- Falls
- Deteriorating mobility
- Reduced food intake
- Failure to cooperate with staff

Defining a Fever
- A single oral temperature >100°F
- Repeated oral temperatures >99.5°F
- Increase of >2°F over baseline temperature

Diagnostic Labs Most Useful in Identifying an Infection
- An elevated white blood count (WBC) of >14K
- Bandemia (bands) >6 percent
- The higher the WBC count and/or the higher the bands, the greater the likelihood

Urine Sampling: What to Look for…

Acute dysuria?
- Yes
- Fever, ↑ WBC/bands?
  - Yes
  - One of the following
    - CVAT
    - Suprapubic pain
    - Hematuria
    - New or increased incontinence
    - New or increased urgency
    - New of increased frequency
  - No
  - Two of the following
    - CVAT
    - Suprapubic pain
    - Hematuria
    - New or increased incontinence
    - New or increased urgency
    - New of increased frequency
- No
- Two of the following
  - CVAT
  - Suprapubic pain
  - Hematuria
  - New or increased incontinence
  - New or increased urgency
  - New of increased frequency
- Yes
- UTI
- No
- No UTI
Other Infectious Etiologies That May Cause Fever and Elevated WBC

- Pneumonia: hypoxemia or tachypnea; abnormal chest x-ray
- Viral respiratory infection
- Skin or soft tissue infection
- Gastrointestinal infection

Asymptomatic Bacteriuria

A positive urine culture does not prove that a patient has a UTI. The term “asymptomatic bacteriuria (ABU)” is used to suggest that a patient has bacteria in the urine but does not have a true infection; a true UTI is bacteriuria in association with specific symptoms arising from the urinary tract.

Antibiograms

An antibiogram is the result of an antibiotic sensitivity test, a laboratory test for the sensitivity of an isolated bacterial strain to different antibiotics (ABX). It is by definition an in vitro sensitivity, but the correlation of in vitro to in vivo sensitivity is often high enough for the test to be clinically useful.

Risk of Clostridium difficile Infection

- One of the largest risks for inappropriate ABX
- Significant morbidity and mortality in nursing homes
- Endemic pathogen in NHs
- Prevention and treatment evolving
  - Appropriate ABX treatment
  - Use of probiotics
  - Infection control precautions
  - Fecal transplantation

Understanding Quality Measures

UTI Quality Measure

Percentage of Residents with a UTI (Long-Stay)

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<th>Numerator</th>
<th>Denominator</th>
<th>Exclusions</th>
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| The measure reports the percentage of long stay residents who have a urinary tract infection. | All long-stay residents with a selected target assessment, except those with exclusions. | 1. Target assessment is an admission assessment (A0310A = [01]) or a PPS 5-day or readmission/return assessment (A0310B = [01, 06]).
2. Urinary tract infection value is missing (I2300 = [-]). |
Best Practice Suggestions

- Provide education to staff, residents, and family members about the importance of HAI and infection prevention.
- Develop and follow appropriate infection control practices and protocols.
- Start a performance improvement project (PIP).
- Monitor and track your HAI data through NHSN or a manual log.
- Keep your resources and records up to date.
- Communicate often with other care providers and staff if patient is a nursing home resident.

Quick Tips

- ABU does not always equal UTI!
- Physicians must be thorough in their testing and diagnosis.
- The elderly, especially those residing in nursing homes have a higher incidence of ABU.
- If antimicrobial therapy is continued as a regular and often unnecessary course of treatment, residents will become ABX resistant.
- Good perineal hygiene and frequent bladder emptying is key.
- Little data exist on effective prevention of UTIs in the NH setting.
- UTI and ABU are not mutually exclusive.
- Antibiotic stewardship and the use of probiotics are effective in the treatment and prevention of Clostridium difficile.
- Assessing your patient properly and using appropriate labs are key to diagnostics.
- It is rarely just one diagnosis in the frail elderly!

Resources

http://www.cdc.gov/hai/pdfs/uti/CA-UTI_tagged.pdf
MDS 3.0 Quality Measures Manual, October 1, 2015 (v9.0)
Resident Assessment Instrument Manual (MDS 3.0)
Quality Measures Manual v9.0
Utility of fever, white blood cells, and differential count in predicting bacterial infections in the elderly.