Resistant Enterococci Behind UTIs in Elderly

BY SHERRY BOSCHERT
San Francisco Bureau

SAN FRANCISCO — The culprit behind most noncomplicated urinary tract infections in outpatients—*Escherichia coli*—plays less of a role as patients age, a study of 2,751 urine cultures showed.

Other pathogens, particularly enterococcus, played a greater role in urinary tract infections (UTIs) in older patients, and the rates of antibiotic-resistant enterococcus increased in older patients, David J. Blehar, M.D., said at the annual meeting of the American College of Emergency Physicians.

The prospective study of serial cases from 80 outpatient offices and four emergency departments divided adult patients into five age groups and looked at the pathogens responsible for UTIs and their susceptibility to antibiotic treatment.

In the youngest group, 18- to 40-year-olds, *E. coli* caused more than 75% of UTIs, a finding similar to previous estimates. The role of *E. coli* fell with increasing age, with a proportional increase in other pathogens. In patients older than 80 years, *E. coli* accounted for fewer than half of UTIs, but enterococcus caused up to 20% of UTIs, said Dr. Blehar of the University of Massachusetts in Worcester.

The study looked at rates of resistance to four antibiotic therapies. Trimethoprim/sulfamethoxazole (TMP/SMX) is the formal first-line drug therapy for noncomplicated UTI, but guidelines suggest substituting a fluoroquinolone in areas where rates of *E. coli* resistance to TMP/SMX exceed 10%-20%. Dr. Blehar's institution and others have adopted the fluoroquinolone levofloxacin as first-line therapy for noncomplicated UTIs. The study also looked at ceftriaxone and ampicillin resistance.

E. coli generally maintained susceptibility to the antibiotics across age groups. Pathogen resistance to ceftriaxone or ampicillin also held steady across age groups.

Enterococcus resistance rates climbed with age. In patients aged 70 years or older, 22% of enterococci were resistant to levofloxacin, and 38% of enterococci showed resistance to levofloxacin in patients aged 80 years and older.

"Urine Gram stain is not a routine study done in our institution, but it may be warranted in this subset of patients to aid in the work-up of UTI," Dr. Blehar said. "If gram-positive UTI is identified, we would add additional coverage for enterococcus." ■

Outpatient PID Therapy Dicey With Adolescents

BY TIMOTHY F. KIRN
Sacramento Bureau

LOS ANGELES — Adolescents treated for pelvic inflammatory disease are not likely to complete a 14-day course of antibiotics nor return for 72-hour evaluation, according to a study designed to see if implementation of a rigorous institutional protocol could improve care.

The protocol helped, but only somewhat, Maria Trent, M.D., said at the annual meeting of the Society for Adolescent Medicine. Previous studies have suggested that even adults have a difficult time adhering to the outpatient regimen.

The study compared management of 56 adolescent females diagnosed with pelvic inflammatory disease before implementation of the protocol with the management of 72 females seen afterward.

The protocol included disseminating a treatment algorithm and a clinical practice guideline based on Centers for Disease Control and Prevention recommendations, making available a full 14-day course of medications at discharge, providing written discharge instructions, and following up by telephone 24 hours to 2 weeks after the patients were initially seen. The patients were seen in a pediatric emergency department or a primary care clinic in urban Baltimore.

Before the intervention, 38% of patients did not receive an appropriate regimen, and only 10% returned at 72 hours to check on resolution of symptoms, as the CDC guidelines recommend, said Dr. Trent, an adolescent medicine specialist at Johns Hopkins University, Baltimore.

During the intervention, 91% of patients received an appropriate regimen. But only 43% returned for reevaluation, and an interview with 28 patients contacted after treatment found that only 61% had taken all of their doses.

Physicians treating adolescents with pelvic inflammatory disease should give serious consideration to inpatient treatment, she said. ■

THE EFFECTIVE PHYSICIAN

Asymptomatic Bacteriuria

BY WILLIAM E. GOLDEN, M.D., AND ROBERT H. HOPKINS, M.D.

Background

Asymptomatic bacteriuria is a common condition in the adult population, particularly in the elderly. The Infectious Diseases Society of America recently issued a practice guideline to update current understanding and appropriate management of this condition.

Conclusions

Asymptomatic bacteriuria is diagnosed on the basis of a specified colony-forming unit (CFU) count in an appropriate urine sample from a patient without signs or symptoms of urinary tract infection. The count needed for diagnosis is usually defined as greater than 10^5 CFU/mL in two consecutive urine specimens for women. Only one specimen is needed to make the diagnosis in men. A single catheterized urine specimen containing one bacterial species in a concentration greater than 10^2 CFU/mL identifies bacteriuria in men or women.

Transient bacteriuria is common in healthy young women: Only 80% of repeat specimens demonstrate continued bacteriuria on the second specimen. Healthy bacteriuric premenopausal women have an increased risk for symptomatic urinary tract infections but are not at risk for long-term adverse outcomes such as chronic renal disease, genitourinary cancer, or increased mortality.

In contrast with asymptomatic bacteriuria, a diagnosis of acute, uncomplicated urinary tract infection implies a symptomatic bladder infection in a patient with a normal genitourinary tract, whereas a complicated urinary tract infection refers to a symptomatic event involving the bladder or kidneys in the presence of structural abnormalities of the genitourinary tract.

The presence or absence of pyuria does not differentiate symptomatic from asymptomatic urinary tract infections. Pyuria is present with asymptomatic bacteriuria in one-third of young women, 70% of diabetic women, 90% of institutionalized elderly, 90% of hemodialysis patients, and 30%-70% of pregnant women with the condition.

Pregnant women with asymptomatic bacteriuria have a 20- to 30-fold increased risk for pyelonephritis during pregnancy. They also have a greater rate of premature delivery.

The prevalence of bacteriuria increases with age. Among the community-dwelling elderly, more than 20% of women over 80 years of age and 6%-15% of men older than 75 years have asymptomatic bacteriuria.

Diabetes is associated with increased rates of asymptomatic bacteriuria in women but not in men. Diabetic women with asymptomatic bacteriuria show no evidence of progression of diabetic complications, regardless of whether they receive antimicrobial therapy.

Patients with short-term, indwelling catheters acquire bacteruria at a rate of 2%-7% per day. Hemodialysis patients have an asymptomatic bacteriuria rate of 28%.

The only outcome of note in treating elderly institutionalized patients with asymptomatic bacteriuria is an increased risk for antimicrobial side effects and the development of resistant organisms in the urinary tract system.

Patients with spinal cord injuries have a prevalence of bacteriuria greater than 50% irrespective of the mechanism of bladder drainage. Nearly all patients with spinal cord injury who were treated for 7-14 days with antimicrobial therapy had recurrent bacteriuria within 30 days of the completion of therapy.

Bacteremia occurs in up to 60% of patients with asymptomatic bacteriuria after traumatic genitourinary procedures. Up to 10% of these patients develop sepsis.

Implementation

► Pregnant women should be screened for bacteriuria by urine culture at least once during the pregnancy. Patients with positive screening results should receive 3-7 days of antimicrobial therapy and periodic rescreening for the remainder of the pregnancy. The available evidence does not recommend either for or against additional routine screening of pregnant women with initial negative urine cultures.

► There are no indications for the screening and treatment of asymptomatic bacteriuria in premenopausal, nonpregnant women or women with diabetes.

► Routine screening and/or treatment of asymptomatic bacteriuria is not recommended for older patients who reside either in the community or in institutionalized settings.

► Patients with indwelling urethral catheters should not be screened for asymptomatic bacteriuria or funguria.

► Antibiotics may be appropriate for women with persistent urinary symptoms 48 hours after the removal of an indwelling urethral catheter.

► Patients with spinal cord injuries should not be screened or treated for asymptomatic bacteriuria.

► No recommendation can be made for screening or treatment for asymptomatic bacteriuria in patients with renal or other solid organ transplants.

► For patients who are scheduled to undergo transurethral resection of the prostate, it is appropriate to screen for asymptomatic bacteriuria, and if diagnosed the condition should be treated. Antibiotics should be discontinued after the procedure unless an indwelling catheter remains in place.

Reference

Nicolle LE, et al. Infectious Diseases Society of America Guidelines for the Diagnosis and Treatment of Asymptomatic Bacteriuria in Adults. Clin. Infect. Dis. 2005;40:643-54.

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