

Choosing Wisely Summer Student - research findings, Dec 2017

Study looks at unnecessary UTI testing in older people

Medical student Adam Sangster recently undertook a study into nurses' knowledge of urinary tract infection (UTI) testing guidelines, their attitudes towards UTI testing and treatment, and their testing practice.

Testing the urine in patients with no symptoms of urinary infection can lead to unnecessary treatment with antibiotics. This can in turn lead to antimicrobial resistance, antibiotic-associated colitis or other drug-specific side effects.

Adam was a summer student in the Department of Primary Health Care and General Practice, University of Otago Wellington. His work was sponsored by the Council of Medical Colleges and took place under the umbrella of the ***Choosing Wisely*** campaign, in the Capital & Coast DHB. *Choosing Wisely* encourages consumers and clinicians to discuss whether certain tests, treatments and procedures are really needed.

High rates of asymptomatic bacteriuria common among older people

Among older people there are harmless bacteria in the urine at rates of 15 to 30 percent among men and 25 to 50 percent among women.¹ This is called asymptomatic bacteriuria. Worldwide, there is a high rate of testing, with 47 percent of admissions to US hospitals having urinalysis ordered.²

In New Zealand, a 2014 audit found that in a secondary hospital, asymptomatic bacteriuria accounted for 43 percent of antibiotic courses received for UTI management.³

Study findings

Adam Sangster surveyed over 70 nurses working in long-term care facilities in the Wellington region and at Kenepuru Hospital in Porirua. The study took place in December 2017.

"I found nurses were putting a lot of weight on quite non-specific symptoms, such as confusion, when going ahead with a UTI dipstick test," he says. "This is contrary to the guidelines (Loeb consensus criteria).

"A lot of older people with UTIs do get confusion. But the guidelines don't recommend treating based on confusion alone, as UTI is not necessarily the cause."

Of long-term care facilities, only one out of 13 reported routine testing as practice – which shows that recommendations against routine dipstick testing have been widely implemented.

He found there was near universal agreement by nurses that urine tests cannot cause harm. Nurses were evenly divided on whether it was safer to request a urine test for a patient, even if there was no current sign of infection, rather than potentially miss a UTI.

He says a key take-away message from the study is that the appeal of intervention is very strong.

¹ Nicolle LE, Yoshikawa TT. Urinary Tract Infection in Long-Term-Care Facility Residents. *Clin Infect Dis*. 2000 Sep 1;31(3):757–61.

² Horstman MJ, Spiegelman A, Naik AD, Trautner BW. National Patterns of Urine Testing During Inpatient Admission. *Clin Infect Dis*. 2017 Oct 1;65(7):1199–205.

³ Blakiston M, Zaman S. Nosocomial bacteriuria in elderly inpatients may be leading to considerable antibiotic overuse: An audit of current management practice in a secondary level care hospital in New Zealand. *Infect Drug Resist*. 2014;7:301–8.

“There is an ingrained idea throughout the system that testing and treatment is pretty much always the way to go. The nurses said that because they have a lot of contact with the patients, when the patients are feeling unwell acutely, they have a very strong drive to treat.

“When you are talking to someone and they are in a lot of discomfort, it’s really hard not to do everything you can. It’s very counter intuitive.”

Recommendations

As the result of these findings, Adam recommends consideration of providing further education on the specific guidelines for UTI diagnosis, the potential harm caused by urine testing and how high asymptomatic bacteriuria rates in older people make positive dipstick results inconclusive.

What the guidelines say

Microbiology guidelines recommend antimicrobials are not prescribed to treat asymptomatic bacteriuria in older people.

Urology guidelines recommend urine specimens for culture are not collected from adults who lack symptoms localising to the urinary tract or fever unless they are pregnant or undergoing genitourinary instrumentation where mucosal bleeding is expected.

A PowerPoint presentation of Adam’s study is available.