

Treatment of Asymptomatic Bacteriuria in the Noncatheterized Hospitalized Patient

To the Editor:

In their review of management of nosocomial urinary tract infections, Belliveau and DeBellis [1] advocate routine antimicrobial therapy for confirmed asymptomatic bacteriuria in noncatheterized hospitalized patients. This approach is inadvisable and should be discouraged.

As reviewed in the recent guidelines from the Infectious Diseases Society of America, none of the multiple clinical trials of treatment of asymptomatic bacteriuria in nonhospitalized elderly adults or patients with diabetes, or of funguria in hospitalized patients, has demonstrated any clinical benefit from treatment [2]. On the contrary, such treatment predictably leads to drug-related adverse effects and selects for resistant microorganisms [2].

The authors confuse clinical with microbiological significance in stating that "... if the quantity of bacteria is at least 100,000 cfu/mL on 2 different specimens, there is a high likelihood that this represents a significant finding, and treatment should be initiated." Whereas it is true that repeatedly demonstrated "high-count" bacteriuria is probably "real" (rather than representing contamination during sample collection), this only makes the culture result microbiologically significant. Clinical significance depends on the clinical context. In the absence of symptoms or other clinical manifestations possibly attributable to urinary tract infection, and in the patient who is not pregnant or awaiting an invasive urologic procedure, even "real" bacteriuria lacks clinical significance. Thus, the mere presence of bacteriuria provides no indication for therapy [2].

Indeed, in asymptomatic patients (other than pregnant women and those awaiting an invasive urologic procedure), urine culture should not even be performed. But if for whatever reason one is done and is positive, the culture certainly should not be repeated as is suggested in the Figure—this is a waste of resources. And if it is repeated, and the repeat culture is positive, therapy still should not be given (as is suggested in the Figure). Best to let the sleeping dog lie.

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References

1. Belliveau PP, DeBellis RJ. Management of nosocomial urinary tract infections in adult patients. *J Clin Outcomes Manage* 2005;12(6):306–14.
2. Nicolle LE, Bradley S, Colgan R, 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.

In reply:

We agree with the comments of Dr. Johnson regarding the difference between the clinical and microbiological significance of a positive urine culture in a noncatheterized asymptomatic hospitalized patient who is neither pregnant nor scheduled for an invasive urologic procedure. However, we don't feel that we have confused these terms.

In our review, we stated that there were many areas for which the medical literature did not provide clear direction for management of nosocomial urinary tract infections. In such instances, we relied on the medical literature and clinical reasoning to arrive at an approach that was feasible and applicable to the population of patients we treat. Repeating a urine culture in the asymptomatic noncatheterized hospitalized patient is one such recommendation. We follow this practice not to establish the diagnosis of asymptomatic bacteriuria but to rule out asymptomatic bacteriuria. Thus, rather than being a waste of resources, a follow-up negative culture may deter unnecessary treatment.

We grant that our recommendation to treat following a second positive culture is more debatable. It was included to provide leeway in the case of patients in whom no treatment is most concerning and for whom no recommendation could be reached by the cited asymptomatic bacteriuria guidelines [1]: immunosuppressed patients with neutropenia and solid-organ transplant recipients. For clarity, perhaps the guideline could suggest referral of such patients to an infectious diseases specialist in lieu of treatment. Alternatively, as Dr. Johnson suggests, we could eliminate the recommendation to use routine antimicrobial therapy for confirmed asymptomatic bacteriuria in the uncatheterized patient and avoid undue patient micromanagement with a broad guideline.

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References

1. Nicolle LE, Bradley S, Colgan R, 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.