



Don't Lose Your Head: Bacteriuria and Altered Mental Status

Many patients, family members, and practitioners attribute non-specific symptoms such as altered mental status (AMS) to urinary tract infections. As such, elderly patients are often given antibiotics for asymptomatic bacteriuria or [pyuria](#).^{1,2} Asymptomatic bacteriuria (ASB) and AMS is common in the elderly and therefore frequently overlap.³ Complicating the issue is concern that a true UTI exists, but patients with AMS are unable to verbalize urinary symptoms. Should we err on the side of caution and give antibiotics to all elderly patients with AMS and bacteriuria?

What do the guidelines say?

The Infectious Diseases Society of America (IDSA) asymptomatic bacteriuria guideline addresses elderly patients that present with cognitive impairment, delirium, or a fall WITHOUT local genitourinary symptoms or systemic signs and symptoms of infection (e.g. fever, hemodynamic instability). The recommendation is to undergo [careful observation](#) rather than antimicrobial treatment. Other causes of AMS should be explored before antibiotics. Patients who fail to improve may be trialed on antibiotics.³

What are outcomes in patients with AMS and ASB who are treated with antibiotics?

In a prospective cohort study of older delirious inpatients with asymptomatic bacteriuria, no difference in functional recovery occurred between 68 patients who received antibiotics and 22 patients who did not receive antibiotics.⁴ However, screening and treating asymptomatic bacteriuria in elderly patients can be harmful. In a prospective study, 50 institutionalized elderly women were randomly assigned to receive or not receive treatment for asymptomatic bacteriuria. Most women had a history of Alzheimer's disease (73-79%) and were confused (69-79%). While the no antibiotic group had more persistence of bacteriuria, the treated group experienced more recurrent infections as well as increased incidence of antimicrobial resistance. The treatment group also had more adverse drug effects including rash, candidiasis, and diarrhea.⁵

Are we missing true UTIs?

AMS occurring with no other systemic signs of infection in sepsis due to urinary tract infections is rare. A retrospective study examined the incidence of bacteremia from a presumed urinary source in hospitalized adults with asymptomatic bacteriuria and altered mental status. Of the 5059 patients, 1.8% developed bacteremia from a presumed urinary source. This number drops to 0.7% when excluding patients with signs of systemic infection.⁶

Key Takeaways: Bacteriuria in elderly patients with altered mental status is not always a urinary tract infection. In patients without systemic signs of infection (e.g. fever, hypotension, leukocytosis), initially monitor off antibiotics while treating alternative causes of altered mental status.

References:

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