Treatment of asymptomatic bacteriuria in elderly patients with delirium: A systematic review

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Disclosures

We have no relationships with financial sponsors to disclose.

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Introduction

“Acute uncomplicated urinary tract infection” is a symptomatic bladder infection characterized by frequency, urgency, dysuria, or suprapubic pain in a woman with a normal genitourinary tract, and it is associated with both genetic and behavioral determinants.

**Recommendation.** Routine screening for and treatment of asymptomatic bacteriuria in older persons resident in the community is not recommended (A-II).

**Recommendation.** Screening for and treatment of asymptomatic bacteriuria in elderly institutionalized residents of long-term care facilities is not recommended (A-I).

**IDSA GUIDELINES**

3) Tencer J. Asymptomatic bacteriuria—a long term study, Scand Jour Urol Nephrol, 1988, vol. 22 (pg. 31-4)

These studies uniformly report **no excess adverse outcomes** in women with asymptomatic bacteriuria.

What is the effect of antibiotic treatment in the elderly presenting acutely with delirium in the presence of ASB, specifically its effect in resolution of delirium?

Should we screen for a UTI in delirium?
Methods

Literature searches were performed in
MEDLINE (OVID interface, 1946 onward)
EMBASE (OVID interface, 1947 onward)
CINAHL (EBSCO HOST, inception onwards)
Cochrane Library (Wiley interface)
ClinicalTrials.gov
World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP)

Inclusion Criteria:
1) Female gender
2) Over 65 years of age
3) Presenting in an acute care setting with delirium and otherwise ASB

Exclusion Criteria:
Presented primarily with UTI symptoms such as polyuria and dysuria or delirium from another obvious cause

Primary Outcome:
Resolution of delirium symptoms as measured through objective scoring systems

Secondary Outcomes:
1) Mortality
2) Frequency of side effects from antibiotics
3) Length of hospital stay
4) Readmission to hospital for delirium

Abstracts were independently reviewed by 2 authors for decision to include for full-text review. Disagreements between two authors were discussed with a third author.

Studies included for full-text review were independently assessed by two authors.
Results

- Prospective cohort study of 343 delirious inpatients admitted to a general medicine unit
- Delirium was diagnosed using the Confusion Assessment Method
- Patients who resided in a nursing home prior to hospitalization were excluded from the study
Dasgupta et al.

68 patients with delirium treated for ASB
22 patients with delirium not treated for ASB

**No difference** in functional recovery:

**RR 1.10 (95% CI 0.86 - 1.41)**

Poor functional recovery following delirium
- Death
- New permanent residence in a long-term residential nursing home
- Functional decline defined as a decreased ability to perform ADLs

Rate of improvement assessed using slopes:

Mean slope **before** ASB treatment: **-0.28**
Mean slope **after** ASB treatment: **-0.04**

Difference in slopes = 0.23 (p= 0.009 with paired t-test, or p =0.004 with signed rank test)
Adverse Events

• 7 out of 93 individuals treated for ASB had evidence of *Clotridium difficile* infection

• 8 out of 251 individuals in the remaining delirious cohort had evidence of *Clotridium difficile* infection

• OR for C. difficile infection **2.45 (95% CI 0.86 - 6.96)**
Conclusion

• There is **insufficient evidence** to suggest that using antibiotics in the treatment of delirium with otherwise ASB results in recovery from the delirium. Only one study addressed our secondary outcomes.

• The **rate of improvement** in delirium was seen to be **slower** when otherwise ASB was treated with antibiotics.

• There was **no difference in functional recovery** in patients with delirium and ASB who were and were not treated.

• A Randomized Controlled Trial is needed to determine the true effect of treatment for ASB on resolution of delirium.
Thank you!

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