



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

IDSA GUIDELINES

- “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).

- 1) Bengtsson C et al. Bacteriuria in a population sample of women: 24-year follow-up study. Results from the prospective population-based study of women in Gottenburg, Sweden, Scand J Urol Nephrol , **1998**, vol. 32 (pg. 284-9)
- 2) Alwall N. On controversial and open questions about the course and complications of non-obstructive urinary tract infection in adult women, Acta Med Scand , **1978**, vol. 203 (pg. 369-77)
- 3) Tencer J. Asymptomatic bacteriuria—a long term study, Scand Jour Urol Nephrol , **1988**, vol. 22 (pg. 31-4)
- 4) Evans DA, Kass EH, Hennekens CH, et al. Bacteriuria and subsequent mortality in women, Lancet , **1982**, vol. 1 (pg. 156-58)

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)

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.

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

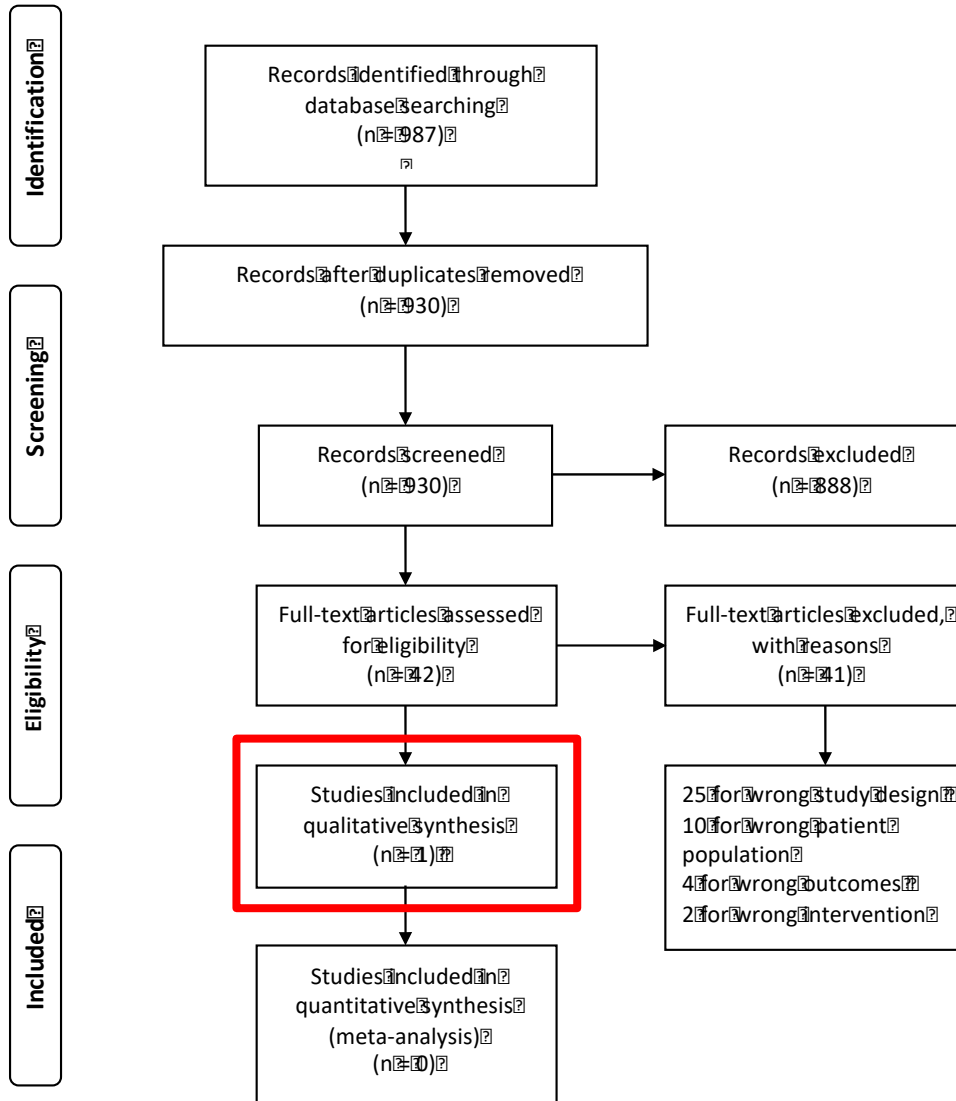
Results



Treatment of asymptomatic UTI in older delirious medical inpatients: A prospective cohort study

Monidipa Dasgupta ^{a, b} ✉, Chris Brymer ^a, Sameer Elsayed ^{c, d}

- 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

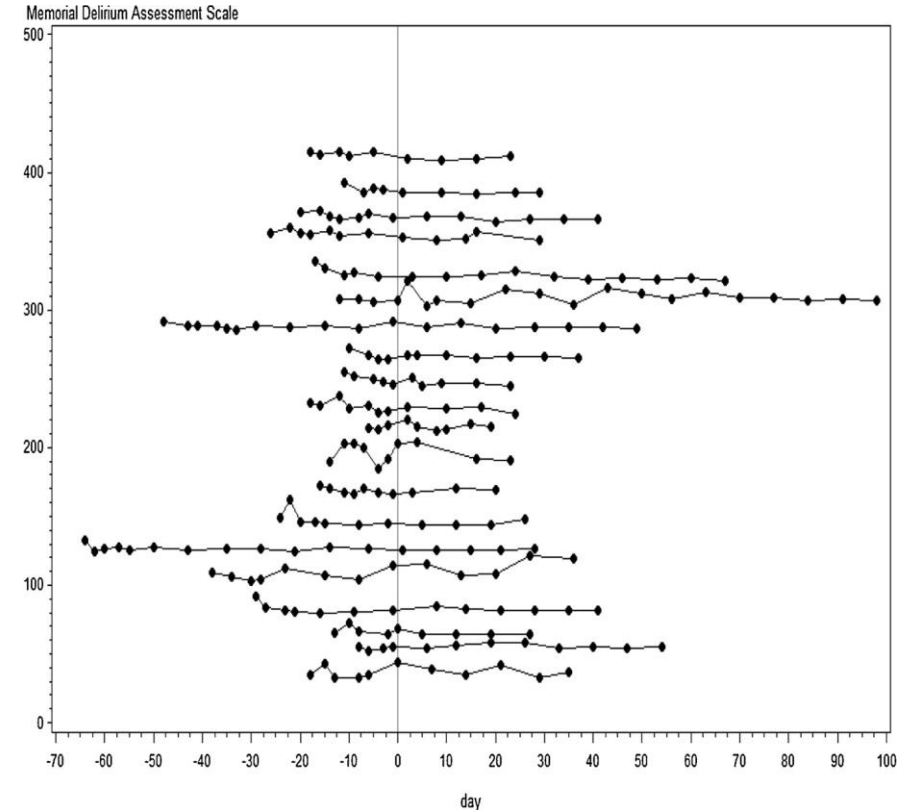
Rate of improvement assessed using slopes:

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

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

Memorium Delirium Assessment Scale

- At least 3 times before treatment was initiated
- At least 3 times after treatment for ASB



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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