

ASYMPTOMATIC BACTERIURIA

Asymptomatic bacteriuria is common among residents in residential aged care homes. Antimicrobials are often prescribed inappropriately for treatment and prophylaxis of asymptomatic bacteriuria. Urinary tract infections (UTIs) and asymptomatic bacteriuria are often overdiagnosed and overtreated, leading to adverse events from excessive antimicrobial use and antimicrobial resistance (AMR).

Aged care homes in Australia have high levels of both unnecessary antimicrobial prescribing and inappropriate antibiotic use. Results of the 2018 Aged Care National Antimicrobial Prescribing Survey show only one-third of antimicrobial prescriptions had documented signs and/or symptoms of a suspected infection.

Prevalence in aged care homes

Asymptomatic bacteriuria is common in older persons and women. In residential aged care, asymptomatic bacteriuria is present in at least 40-50% of women and 30-40% of men without chronic indwelling catheters. Residents who are functionally impaired are more likely to have bacteriuria. In 2018, 2% of all prescriptions in aged care homes were for asymptomatic bacteriuria.

Eight out of ten of these prescriptions were for prevention of asymptomatic bacteriuria.

What is asymptomatic bacteriuria?

Asymptomatic bacteriuria is the growth of organisms at counts of 10⁵ colony-forming units (CFU)/mL or more in a urine specimen in persons without symptoms, consistent with a UTI. Pyuria or the presence of pus in the urine accompanies bacteriuria for over 90% of older residents in age care. It is also present in 30% of residents without bacteriuria.

Chronic genitourinary symptoms such as urinary incontinence, dysuria and nocturia are common among aged care residents. These chronic symptoms are not an indication of urinary tract infection, even when bacteriuria is present.

Treatment of bacteriuria does not improve chronic symptoms.

START

A mnemonic START has been developed to help best practice care of people with symptomatic and asymptomatic UTIs:

S- SYMPTOMS

T- TESTING
A- ASSESSMENT
R- RESISTANCE
T- TREATMENT

Symptoms

Common UTI symptoms include:

- Frequency
- Urgency
- Pain or burning

Cloudy or malodorous urine is not a reliable sign of UTI. Urge incontinence and new onset delirium are associated with UTIs, especially in older persons.

Testing

Screening for asymptomatic bacteriuria is not recommended. Identification of pyuria by urinalysis or leukocyte esterase dipstick is not diagnostic for symptomatic urinary infection, nor an indication for antimicrobial therapy. Requesting a urine culture without a clear indication significantly contributes to antibiotic misuse.

Assessment

Asymptomatic bacteriuria only requires treatment in very limited circumstances, such as people undergoing invasive urological procedures. For people undergoing joint replacement procedures, screening or treating asymptomatic bacteriuria is not recommended. Treatment is not indicated for catheter changes.

The Australian Therapeutic Guidelines has produced a flow chart on assessment of aged care facility residents with suspected UTI. The flowchart provides different decision pathways depending on whether the resident has a urinary catheter or not.

For both pathways, the next decision step is to identify criteria consistent with an UTI, including:

- Fever
- Acute mental status change
- New or worsening urinary frequency or urgency
- New or worsening suprapubic pain or tenderness
- Costovertebral angle pain or tenderness *continued over*

- New or worsening urinary incontinence
- If these criteria consistent with a symptomatic UTI are not present, further investigation is not recommended.

Resistance

UTIs are a common indication for the use of antibiotics in aged care facility residents. However, overuse of antibiotics contributes to antimicrobial resistance. Antibiotic resistance occurs when bacteria change or mutate to protect themselves from an antibiotic.

Treatment of asymptomatic bacteriuria with antibiotics is associated with emergence of organisms of increased antimicrobial resistance.

There is a significantly higher prevalence of multi-drug resistant organisms in aged care settings. The presence of indwelling catheters is also a risk for colonisation with resistant bacteria.

Treatment

Recurrent asymptomatic bacteriuria is not a UTI and does not require antibiotic therapy. Antibiotic therapy for asymptomatic bacteriuria, with or without an indwelling catheter, does not reduce mortality, the incidence of symptomatic UTI, or UTI-related complications, and significantly increases the risk of adverse events (including antimicrobial resistance).

Antimicrobial stewardship

In recent years, the Australian Commission for Safety and Quality in Health Care (ACSQHC) has developed resources to improve the safe and appropriate use of antimicrobials, reduce patient harm and decrease the incidence of antimicrobial resistance. The concept of antimicrobial stewardship (AMS) has emerged.

AMS promotes optimal antimicrobial prescribing and aims to improve patient outcomes and reduce adverse consequences associated with antimicrobial use including antimicrobial resistance, toxicity and unnecessary costs.

Evidence shows that antimicrobial stewardship activities can reduce inappropriate antimicrobial use, which is associated with improved patient care.

The Aged Care Quality Standards require residential aged care facilities to implement practices to promote appropriate antibiotic prescribing and use to support optimal care and reduce the risk of increasing resistance to antibiotics (Standard 3).

In addition, organisational governance systems are required for preventing, managing and controlling infections and antimicrobial resistance (Standard 8).

The important components of antimicrobial stewardship programs are:

- Nursing staff education and training
- Aged care-specific infection management algorithms for nursing staff
- Aged care-specific antibiotic treatment guidelines
- Regular surveillance of antibiotic use by consultant pharmacists
- Improved communication about decisions related to antibiotic prescribing

Multifaceted interventions likely to be most effective.

This may include audit and feedback on prescribing of antibiotics, education sessions, newsletters and discussions at Medication Advisory Committees.

Core elements for antibiotic stewardship in aged care homes include:

- Leadership commitment
- Accountability
- Drug expertise
- Action
- Tracking
- Reporting
- Education

Pharmacists may be contracted to provide Quality Use of Medicines (QUM) services (including antimicrobial stewardship), funded by the Australian Government.

Summary

Urinary tract infections are a common problem for residents in residential aged care homes. Asymptomatic bacteriuria and pyuria are frequently seen in residents.

Antimicrobial therapy is indicated only for treatment of symptomatic urinary infection. It is not appropriate to treat asymptomatic bacteriuria with antibiotics.

Inappropriate and overuse of antibiotics for treating or preventing asymptomatic bacteriuria can lead to antimicrobial resistance. Antimicrobial stewardship programs should be implemented in residential aged care homes, with support from pharmacists.

<https://www.safetyandquality.gov.au/our-work/antimicrobial-stewardship>

<https://www.agedcarequality.gov.au/providers/standards>

References

2018 Aged Care National Antimicrobial Prescribing Survey. ACSQHC, 2019.

Therapeutic Guidelines Ltd (eTG March 2020 edition)

Healthcare Infection 2014;19:4-12.

BMC Infect Dis 2014;14:410.

The Webstercare Consultant Pharmacist Continuing Education Service come to you each month from your pharmacist. If you would like extra copies please visit www.webstercare.com.au or ask your pharmacist.