Medicines Optimisation Update

Prescribing for Urinary Tract Infections (UTIs)

Clinical Commissioning Group

Partners in improving local health

What this includes:

3 day courses of antibiotics: ADQ (average daily quantity) per item: Antibiotics prescribed for UTIs (trimethoprim, nitrofurantoin, pivmecillinam), for acute symptomatic uncomplicated Lower UTI (LUTI) in non-pregnant women <65 years with a normal urinary tract and normal renal function. Also includes advice for asymptomatic elderly and catheterised patients.

Identifying the problem:

- A care bundle to support this update is available on the NECS medicines optimisation website: http://medicines.necsu.nhs.uk/guidelines/cumbria-guidelines/
- RCGP Target toolkit audits: http://www.rcgp.org.uk/~/link.aspx?_id=4725F0AA89A349E991425E510F7D6371&_z=z

Background

- **Antibiotics should be TARGETED at patients most likely to benefit, therefore clinicians need to be able to identify the patients with bacteriuria and at higher risk of complications.**
- Approximately 50-80% of women will suffer from a UTI in their lifetime, many self-treat.
- Not all women presenting with symptoms of uncomplicated LUTI will have clinically significant bacteriuria.
- Uncomplicated LUTIs often resolve in a few days without treatment and are rarely associated with renal failure or sepsis.

Suggested actions – in the consultation:

- **Assess the patient's clinical condition, using local and national guidelines to identify clinical criteria for diagnosis.** This should usually take place with the patient present in case further examination is required. Use the telephone only in exceptional cases.
- **Urine dip tests are more useful to rule out rather than confirm the diagnosis of a UTI.**
- **Diagnosis of UTI should be based on signs and symptoms:** refer to local antimicrobial guideline & PHE Diagnosis of UTI-quick reference guide for primary care"
- **All patients should receive advice on symptomatic treatment,** including analgesia (ibuprofen or paracetamol) and self-care information, including hydration and good toilet hygiene.
- If the infection is mild:
    - **Reassure patients that antibiotics may not be needed** because they are likely to make little difference to the symptoms and may have side-effects.
    - **Consider a backup/delayed prescription** for mild infection. Always safety net.
- **Only prescribe an antibiotic where there are clear signs of a bacterial infection.**
- **Give a 3 day course of nitrofurantoin as first-line empirical treatment (trimethoprim or pivmecillinam are alternatives) for uncomplicated LUTI in women** because they are narrow-spectrum antibiotics that cover the most prevalent pathogens. A 7 day course is recommended for men.
- **Avoid nitrofurantoin if eGFR is <45 ml/min** due to inadequate concentrations in the urine. Alkalinising agents are not advised with nitrofurantoin.
- **Document clinical diagnosis, duration, dose and route in patient records.** If you have prescribed broad spectrum antibiotics or outside of the guidelines based on the patient's clinical presentation, this should be added to the notes.
- **Counsel women that symptoms may still be present after 3 days**, but that they should clear. Always safety net.
- **A mid-stream urine culture (MSU) should be sent if the patient has persistent symptoms or antibiotic treatment has failed,** to help identify bacteria and their sensitivity to antibiotics. Be aware that laboratory reports are NOT necessarily in order of preference, Also, not all susceptibility results are routinely reported so please give relevant clinical details including drug allergies on the request and discuss with Microbiologist if alternatives required .Check antibiotic guidelines. Investigate other possible causes.
- ***E. coli* with Extended-spectrum Beta-lactamase enzymes (ESBLs) are multi-resistant, but usually remain sensitive to nitrofurantoin or fosfomycin.** Patients with recurrent UTIs, abnormalities of genitourinary tract or renal impairment are more likely to have a resistant strain.
- **Second choice antibiotics, especially broad spectrum antibiotics, should be guided by urine culture and history of antibiotic use.**

Partners in improving local health

Medicines Optimisation Update

Prescribing for Urinary Tract Infections

NHS Cumbria Clinical Commissioning Group

- **Do not treat asymptomatic bacteriuria in the elderly** as it is very common and often represents normal body flora. Treatment does not reduce mortality or prevent symptomatic episodes, but increases risk of side effects and antibiotic resistance. **Only send urine for culture if signs of infection,** if the patient has back pain or fever, upper UTI is more likely, urine culture must be performed & empirical therapy started. **Do not send urine for culture in the asymptomatic elderly with positive dipsticks**.
- **In cognitively impaired patients, a persistent change in mental status and change in character of the urine not responsive to other interventions, e.g. improved hydration, suggests the need for a urine culture.** Be alert to non-specific symptoms of infection such as hypothermia, abdominal pain, alteration of behaviour or loss of diabetes control.
- **Do not treat asymptomatic bacteriuria in catheterised patients.** The majority of catheterised patients have bacteriuria.
    - Symptoms that may suggest UTI in patients with catheters include fever, flank or suprapubic discomfort, change in voiding patterns, nausea, vomiting, malaise or confusion. Exclude other sources of infection. Admit to hospital if systemic symptoms such as fever, rigors, chills, vomiting or confusion appear.
    - **Do not use dipstick testing to diagnose UTI in catheterised patients, send urine for culture.**
    - **Check that the catheter drains correctly** and is not blocked.
    - **Consider need for continued catheterisation**. If the catheter has been in place for more than 7 days, consider changing it before/when starting antibiotic treatment.
    - **Do not routinely give antibiotic prophylaxis for catheter changes unless history of symptomatic UTIs due to catheter change** (where it impinges on function and well-being).
- Before starting a patient on long term antibiotics for a recurrent UTI:
    - **Consider non-pharmacological and lifestyle measures**, as detailed in local recurrent UTI guideline.
    - **Explore patient expectations on treatment duration and success rates.**
    - **Carry out the necessary monitoring** e.g. renal function, liver function and monitor for side effects e.g. pulmonary symptoms especially for long term UTI prophylaxis.

Suggested Actions – as a Practice

- **Audit UTI prescribing and review the need for and effectiveness of long term courses of antibiotics for recurrent UTIs** after 6-12 months using the recurrent UTI care bundle.
- **Please also refer to the section "As a practice" of the Antibiotic Prescribing Medicines Optimisation Update for further guidance.**

Resources:

- North East & Cumbria antimicrobial prescribing guideline for primary care & Quick reference guide to common infections in primary care – http://medicines.necsu.nhs.uk/download/north-east-cumbria-antimicrobial-prescribing-guideline-for-primary-care/
- Antibiotic Management of Recurrent Urinary Tract Infections in Adults - http://medicines.necsu.nhs.uk/download/antibiotic__management_of_recurrent_urinary_tract_infections_in_adults_dec_2014x1x-pdf/
- RCGP TARGET Antibiotics Toolkit: http://www.rcgp.org.uk/clinical-and-research/toolkits/target-antibiotics-toolkit.aspx

References:

- PHE Diagnosis of UTI-QUICK REFERENCE GUIDE FOR PRIMARY CARE: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/345784/UTI_quick_ref_guidelines.pdf
- NICE guidance Urinary Tract infections in adults June 2015 https://www.nice.org.uk/guidance/qs90
- Cochrane review: http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004682.pub2/abstract
- NICE guidance NICE advice [KTT10] Published date: January 2015 Three-day courses of antibiotics for uncomplicated urinary tract infection
- Management of suspected bacterial urinary tract infection in adults July 2012 SIGN guidance no 88: http://www.sign.ac.uk/pdf/sign88.pdf

NECS Medicines Optimisation website. Available at http://medicines.necsu.nhs.uk/guidelines/cumbria-guidelines/

Date updated: October 2016; **Review**: October 2018; **Author**: Melanie Graham