

Prescribing Tip No. 186 Date: 14th December 2017**Trimethoprim, Resistance rates and Risk factors for increased resistance**

NHS England has a target to halve the number of healthcare associated Gram Negative Bloodstream Infections (GNBSI) by 2021. Escherichia Coli BSI represents the most common cause of GNBSI and these are the focus for 2017 – 2019. Whilst there are many sources for E.coli infection the most common are Urinary Tract Infections (approximately 50%). In order to prevent progression of infections from the urinary tract to the blood it is important that UTIs are treated with the correct antibiotics¹.

Nationally, trimethoprim resistance is common in laboratory processed urine samples (34% resistance identified in NHS laboratories in 2016 from all healthcare settings)¹.

12,149 coliform bacteria were isolated from urine samples submitted from Chorley & South Ribble and Greater Preston CCG during 2016 and antibiotic sensitivity was tested on all coliforms. Trimethoprim resistance in primary care was identical to the national figure. Nitrofurantoin resistance rate was much lower; 7.8% resistance was identified locally².

Factors associated with UTIs due to a resistant organism

Risk factors for increased resistance include: Age > 65 years, care home resident, recurrent UTI, hospitalisation >7days in the last 6 months, unresolving urinary symptoms, recent travel to a country with increased antimicrobial resistance, previous UTI resistance to trimethoprim, cephalosporins or quinolones.

If risk of resistance, send urine for culture and susceptibilities and give safety net advice³.

Current guidelines recommend that urine samples be sent to the laboratory from those individuals with clinical treatment failure, frequent or recurrent UTI or who have a likelihood of a resistant infection. Therefore, it must be noted that since urine is more likely to be referred to the laboratory after a treatment failure; laboratory data will overestimate the prevalence of resistance. Most prescribing for infections in primary care is empirical and the majority of UTIs are not investigated microbiologically, and those that are reflect a biased population such as treatment failures (likely to be due to resistance) or recurrent and/or complicated infections in patients who may have experienced considerable exposure to antibiotics^{1,2}.

For Adult Male and Non-Pregnant Female patients: Nitrofurantoin (GFR >45ml/min) is the first line choice for treatment of lower UTI.

A copy of the C&SR and GP 'Management of Infection Guidance for Primary Care, May 2017' guidelines are available for download via the Medicines Optimisation page of Sharepoint.

<http://ccg.centrallancashire.nhs.uk/mmopt/AntibioticFormulary/Forms/CurrentAntibioticFormulary.aspx>

If pyelonephritis is suspected, antibiotic treatment choices and management differs – please refer to the local guidelines.

References:

1. English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) Report 2017
2. LHTTr Microbiology Update 2017 Report for GPs
3. PHE. Management and treatment of common infections. Antibiotic guidance for Primary care September 2017.

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