

ALTERNATIVE MANAGEMENT OF LOWER URINARY TRACT INFECTION IN NON-PREGNANT WOMEN

<p>Background</p>	<p>Evidence-based guidance on management of urinary tract infection (UTI) has been produced by Public Health England [1] and advocates the use of empirical antibiotics in women presenting with 3 or more symptoms or severe symptoms. For women under 65 years with less than 3 symptoms, the use of dipstick testing to rule out infection is advocated along with a watchful waiting strategy to see if symptoms resolve without antibiotics.</p> <p>Antimicrobial resistance is recognised as a major threat to preservation of effective antibiotics and various strategies to reduce overall antibiotic use have been explored. Recent studies have reported on alternatives to using antibiotics in lower UTI in women including promotion of self-management, use of delayed prescriptions and symptomatic relief with ibuprofen.</p>
<p>Discussion</p>	<p>A recently published study from the Netherlands [2] investigated how many women presenting with UTI symptoms were willing to delay antibiotic treatment when asked by their general practitioner. 137 of 176 women were asked by their GP to delay antibiotic treatment and 37% (51/137) were willing to delay. After one week, 55% (28/51) of delaying women had not used antibiotics with 71% (20/28) reporting clinical improvement or cure and none of the participating women developed pyelonephritis.</p> <p>This study supports the findings of two earlier studies from a group in England. In a qualitative study Leydon et al [3] explored the views of 21 women with UTI and found that they preferred not to take antibiotics and were open to alternative management approaches including delayed use of antibiotics.</p> <p>Little et al [4] carried out a randomised controlled trial in 309 women to assess five UTI management strategies: empirical antibiotics; empirical delayed (by 48 hours) antibiotics; or targeted antibiotics based on a symptom score, a dipstick result or a positive midstream urine analysis. All participants were also given written information on symptom management specific to their management approach. Patients had 3.5 days of moderately bad symptoms if they took antibiotics immediately and there were no significant differences in duration or severity of symptoms between the 5 groups. Patients who waited at least 48 hours to start taking antibiotics reconsulted less (hazard ratio 0.57 (CI 0.36 to 0.89), P=0.014) but on average had symptoms for 37% longer than those taking immediate antibiotics. The authors concluded that antibiotics targeted with dipstick tests and a delayed prescription as backup, or empirical delayed prescription, help to reduce antibiotic use. A follow up observational study by Little et al [5] found that symptoms were less severe and of shorter duration when the doctor took a positive approach to diagnosis and prognosis, whereas, intriguingly, using what seemed to be a patient centred approach when communicating had no effect.</p> <p>A BMJ Editorial [6] summarises these issues and highlights that over a third of symptomatic women have no identifiable bacteriological infection.</p> <p>In a study from Germany, Bleidorn et al [7], compared the efficacy of ibuprofen versus ciprofloxacin for resolution of UTI symptoms in 79 women and found that ibuprofen was</p>

	<p>non-inferior to ciprofloxacin. Further studies on the role of ibuprofen in UTI are underway. This alternative approach of using symptomatic treatment for pain relief in UTI is supported by the fact that some cases of cystitis are due to inflammation without an infecting organism and also that the effectiveness of some antibiotics, notably the macrolides but possibly some other groups, may have an anti-inflammatory action.</p> <p>A similar study of 500 women aged 18-60 years in Scandinavian countries is underway comparing the efficacy of ibuprofen versus mecillinam for resolution of UTI symptoms at day 4 [8]. A recently reported study from Germany [9] compared the rate of antibiotic prescribing in two groups of over 240 women aged 18-65 years given either a single dose of fosfomycin 3g or a 3-day course of ibuprofen with the option of a delayed antibiotic prescription. Two thirds of women with uncomplicated UTI treated symptomatically with ibuprofen recovered without any antibiotics therefore overall they received significantly fewer course of antibiotics, but had a significantly higher total burden of symptoms and there were more cases of pyelonephritis (5/241). The authors suggest that symptomatic relief with ibuprofen can be discussed with women with mild to moderate symptoms in a shared decision making approach or within a strategy of delayed prescription of antibiotics.</p>
<p>Conclusion</p>	<ul style="list-style-type: none"> • Evidence supports the use of antibiotics in lower UTI in women when symptoms are severe or there is a history of recurrent cystitis. • For women with less severe or limited symptoms a delayed prescription for antibiotics may be a suitable management option in some patients. • Symptom relief with ibuprofen along with general advice about maintaining fluid intake may provide resolution of symptoms without the need for antibiotics and can be used as a bridge to delayed prescription of antibiotics. • An information leaflet on cystitis may be useful to share with patients

References

1. [Diagnosis of UTI Quick Reference Guide](#), Public Health England
2. Knottnerus et al, [Women with symptoms of uncomplicated urinary tract infection are often willing to delay antibiotic treatment: a prospective cohort study](#), BMC Family Practice 2013, 14:71
3. Leydon et al, [Women's views about management and cause of urinary tract infection: qualitative interview study](#) BMJ 2010;340:c279
4. Little et al, [Effectiveness of five different approaches in management of urinary tract infection: randomised controlled trial](#). BMJ 2010;340:c199
5. Little et al, [Presentation, pattern, and natural course of severe symptoms, and role of antibiotics and antibiotic resistance among patients presenting with suspected uncomplicated urinary tract infection in primary care: observational study](#). BMJ 2010;340:b5633
6. D Mangin, BMJ Editorial: [Urinary tract infection in primary care. How doctors deliver care is as influential as the treatment itself](#) BMJ 2010;340:c657
7. Bleidorn et al, [Symptomatic treatment \(ibuprofen\) or antibiotics \(ciprofloxacin\) for uncomplicated urinary tract infection? - Results of a randomized controlled pilot trial](#), BMC Medicine 2010, 8:30
8. Vik et al, [Ibuprofen versus mecillinam for uncomplicated cystitis - a randomized controlled trial study protocol](#), BMC Infectious Diseases 2014, 14:693
9. Gágyor et al, [Ibuprofen versus fosfomycin for uncomplicated urinary tract infection in women: randomised controlled trial](#), BMJ 2015;351:h6544