Healthcare Improvement Scotland | SAPG Safeguarding antibiotics

Alternative management of lower urinary tract infection in non-pregnant women

Background

Lower UTI is a self-limiting condition in the majority of women and lasts for 5-7 days. Evidence-based guidance on management of urinary tract infection (UTI) by Public Health England [1] suggests empirical or delayed antibiotics should be considered in non-pregnant women under 65 years presenting with 2 or more diagnostic symptoms depending on severity symptoms. For women under 65 years with 1 or no diagnostic symptoms, the use of dipstick testing to rule out infection is advocated along with a watchful waiting strategy where appropriate to see if symptoms resolve without antibiotics.

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 such as promotion of self-management including hydration to reduce recurrent UTI, use of delayed prescriptions and symptomatic relief with NSAIDs such as ibuprofen.

Discussion

A study from the Netherlands [2] found that 37% (51/137) of women who were asked by their GP to delay antibiotic treatment were willing to do so. 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.

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. A randomised controlled trial in 309 women by Little et al [4] assessed 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. 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 re-consulted 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. A BMJ Editorial [6] summarises these issues and highlights that over a third of symptomatic women have no identifiable bacteriological infection.

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 non-inferior to ciprofloxacin. This alternative approach of using symptomatic treatment 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.

Another study from Germany [8] 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.

A recently published study in Scandinavian countries by Vik et al [9] showed that Ibuprofen was inferior to pivmecillinam for treating uncomplicated UTIs. More than half of the women in the ibuprofen group recovered without antibiotic but 7 out of 181 developed pyelonephritis. The authors concluded that until those who are at risk of developing complications can be identified, ibuprofen alone should not be recommended as initial treatment.

Conclusion

- 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 back-up prescription for antibiotics may be a suitable management option in some patients [10, 11].

- Symptom relief with ibuprofen, if no allergies or intolerance, along with general advice about maintaining fluid intake may provide resolution of symptoms without the need for antibiotics but should be used as a bridge to delayed prescription of antibiotics due to the risk of pyelonephritis.

- Information leaflets may be useful to share with patients to provide advice on symptom management and safety netting
  https://patient.info/pdf/4229.pdf
  http://www.rcgp.org.uk/clinical-and-research/resources/toolkits/target-antibiotic-toolkit.aspx

References

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