

Is a short course of antibiotics better than a long course in the treatment of uncomplicated UTI?

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Three Part Question:

P: In a patient with acute UTI symptoms

I: Is a three days of oral ABX

C: Compared to five or seven days

O: Associated with lower cure rate?

Clinical scenario

A 42 years old woman diagnosed with a uncomplicated UTI and you want to prescribe a antibiotic. You wonder whether a short 2-3 day course is better than longer 7-14 day course of antibiotics.

Search strategy

Medline database 1966 to present.

The Cochrane Library 2006

Search outcome

Five metanalysis were identified as answering the 3 part question, found also in Cochrane

Urinary tract infection (UTI) refers to the presence of a certain threshold number of bacteria in the urine.

Bacterial cystitis (bacteria in the bladder, also called acute cystitis) can occur in men and women and the signs and symptoms include dysuria (pain on passing urine), frequency, cloudy urine, occasionally haematuria (blood in the urine), and is often associated with pyuria (high urine white blood cell count).

Complicated UTIs are those associated with fever and/or back pain (indicating kidney infection), UTIs in men, UTIs associated with indwelling or intermittent urinary catheters, obstructive uropathy (any changes in the urinary tract due to obstruction), vesicoureteric reflux (urine travels from the bladder back up toward the kidneys) and other urological abnormalities.

Author Date and source	Patient Group	Study Type	Results	Conclusion
Duration of antibacterial treatment for uncomplicated urinary tract infection in women. Milo G, Katchman EA, Paul M,	Uncomplicated cystitis in 18 to 65 years old non-pregnant women without signs of upper UTI.	Systematic review and meta-analysis. Thirty-two trials (9605 patients) were included.	For <u>symptomatic failure rates</u> , no difference between three-day and 5-10 day antibiotic. For <u>bacteriological failure rates</u> showed that 3 day therapy was less effective than 5-10 day therapy. <u>Adverse effects</u> were	Three days of antibiotic therapy is similar to 5-10 days in achieving symptomatic cure during uncomplicated UTI. Treatment for 5-10 days could be considered for treatment of women in whom eradication of bacteriuria is

<p>Christiaens T, Baerheim A, Leibovici L</p>			<p>significantly more common in the 5-10 day treatment group</p>	<p>important</p>
<p>Short versus standard duration oral antibiotic therapy for acute urinary tract infection in children</p> <p>Michael M, Hodson EM, Craig JC, Martin S, Moyer VA</p>	<p>Children older than 3 months and younger than 18 years with culture proven UTI.</p>	<p>Systematic review and meta-analysis. Ten trials were identified (652 patients).</p>	<p>There was no significant difference in the frequency of positive urine cultures between the short (2-4 days) and standard duration oral antibiotic therapy (7-14 days) for UTI in children.</p>	<p>A 2-4 day course of oral antibiotics appears to be as effective as 7-14 days in eradicating lower tract UTI in children.</p>
<p>Treatments for symptomatic urinary tract infections during pregnancy</p> <p>Vazquez JC, Villar J</p>	<p>pregnant women</p>	<p>Systematic review and meta-analysis. Nine studies (997 pregnant women)</p>	<p>no significant differences between the treatments under study with regard to cure rates and complications such as recurrent infection, incidence of preterm delivery...</p>	<p>There are insufficient data to recommend any specific treatment regimen for symptomatic urinary tract infections during pregnancy. All the antibiotics studied were shown to be very effective. Complications were very rare. All included trials had very small sample sizes.</p>
<p>Antibiotics for preventing recurrent urinary tract infection in non-pregnant women</p> <p>Albert X, Huertas I, Pereiró I, Sanfélix J,</p>	<p>Recurrent urinary tract infection</p>	<p>Systematic review and meta-analysis. Nineteen studies involving 1120 women.</p>	<p>Continuous antibiotic prophylaxis for 6-12 months reduced the rate of UTI during prophylaxis when compared to placebo.</p>	<p>There is a role for prophylaxis antibiotic. Postcoital treatment could be offered to woman who have UTI associated</p>

Gosalbes V, Perrota C				with sexual intercourse.
Antibiotic duration for treating uncomplicated, symptomatic lower urinary tract infections in elderly women Lutters M, Vogt-Ferrier NB	symptomatic lower UTIs in elderly women .	Systematic review and meta-analysis. 1435 elderly women were included.	Persistent bacteriuria rate at short-term (2 weeks post-treatment) was better in the longer treatment group (3 to 14 days) than in the single dose group. The rate of persistent bacteria at long-term and the clinical cure rate showed no statistically significant difference between the two groups.	Single dose antibiotics may be less effective but more acceptable to women over 60 with uncomplicated urinary tract infection, but more research is needed

Comment(s)

This review addresses the three-part question directly and concludes that a short course of treatment is an effective choice in the treatment of childhood UTI and uncomplicated UTI.

Clinical bottom line

1. 3 days of ABX in uncomplicated UTI in women 18-65 is sufficient.
2. 3 days of ABX in uncomplicated UTI in children 3 months-3 years is sufficient.
3. The verdict is still out there for pregnant woman. Treat for 5-7 days until new data.
4. Treat elderly woman with uncomplicated UTI with a short course of ABX. One single dose is not yet acceptable despite the benefits of reducing side effects.
5. Anyone with a complicated UTI should get a longer course of ABX.

References

1. Michael M, Hodson EM, Craig JC, Martin S, Moyer VA Short versus standard duration oral antibiotic therapy for acute urinary tract infection in children (Review) *The Cochrane Database of Systematic Reviews* 20 January 2003, Issue 1. Art. No.:CD003966.DOI: 10.1002/14651858.CD003966
2. Milo G, Katchman EA, Paul M, Christiaens T, Baerheim A, Leibovici L Duration of antibacterial treatment for uncomplicated urinary tract infection in women Milo G, Katchman EA, Paul M, Christiaens T, Baerheim A, Leibovici L *The Cochrane Database of Systematic Reviews* 2006 Issue 4 Copyright © 2006 The Cochrane Collaboration
3. Treatments for symptomatic urinary tract infections during pregnancy Vazquez JC, Villar J
4. Antibiotics for preventing recurrent urinary tract infection in non-pregnant women Albert X, Huertas I, Pereiró I, Sanfélix J, Gosalbes V, Perrota C
5. Antibiotic duration for treating uncomplicated, symptomatic lower urinary tract infections in elderly women Lutters M, Vogt-Ferrier NB

