

Single Dose Antibiotic Therapy for Urinary Tract Infection

Drs. Sen and Moudgil(1) state that single dose antibiotic therapy has no role in the treatment of childhood urinary tract infection.

This topic has been reviewed by Bailey(2), who, supported by evidence from the literature, recommends single dose therapy as the treatment of choice for uncomplicated urinary tract infections in children, particularly in the older girl with asymptomatic bacteruria or recurrent cystitis with a radiologically normal urinary tract.

The advantage of this form of therapy are its simplicity, economy, efficacy, better patient compliance, fewer side effects and, according to some studies, lesser R-factor mediated resistance.

The recommended single dose regimens are depicted in the *Table*.

TABLE—Recommended Single Dose Regimens

Drug	Dose (mg/kg)
Trimethoprim	6 - 9
Co-trimoxazole	30 - 40
Sulphafurazole	150 - 200
Amoxycillin	50 - 100
Gentamicin/Netilmicin	3 - 5

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Reply

We wish to thank Dr. Gautam for his interest in our paper. Single dose therapy for urinary tract infections (UTI) in children has been a hotly debated subject, but of late the issue is quite clear. In the late 70's and early 80's, a few reports appeared in literature(1,2) which suggested that short course therapy was as good as the conventional treatment for childhood UTI. Based on these reports (and a few other small clinical trials), a few authors recommended the use of short course therapy in selected cases of childhood UTI. During the same period, a few studies showed that short course therapy was associated with a significantly lower cure rate(3) or a greater rate of relapse(4).

Moffatt *et al.*(5) systematically studied all the published data on the subject till date and did a "methodological review" of all 14 papers published on this topic. They found that 2 of the 14 studies indicated that short course therapy was significantly less effective than conventional treatment and the remaining 12 had insufficient sample

size to conclude that the 2 therapies were equivalent. They found that all the studies were either of flawed design, inadequate follow-up, inadequate number of patients, were not double blind, suffered from inadequate patients selection or were in some other way methodologically flawed. They unequivocally concluded that there was inadequate data to recommend short course therapy for UTI in children.

It is, therefore, recommended that short course therapy should not be used in children till further evidence is available that it is as effective as conventional treatment(6).

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Comment

Single dose treatment for urinary tract infections is attractive because it is associated with improved compliance and reduced side effects and cost. This therapy was used successfully in treating lower urinary tract infections in adolescent girls(1), children and adults(2). However, at present, there is no practical and reliable, clinical or laboratory technique to differentiate upper from lower urinary tract infections. Others have found that, while many children do respond satisfactorily to treatment, recurrences of infection after 10 days were more likely to occur after single dose therapy than an one-week course(3). A meta-analysis of previously reported studies concluded that there was insufficient evidence to recommend the use of short course antibiotic therapy for urinary tract infections in children(4).

It would be prudent to restrict single dose treatment to adolescent girls with normal urinary tracts, where the risk of renal damage is low. However, younger children and those with abnormal urinary tracts, fever or urinary tract symptoms must be treated with appropriate antibiotics for 7-10 days(5).

The other controversy, regarding therapy for asymptomatic bacteriuria, seems to be almost resolved. Asymptomatic bacteriuria, often diagnosed on routine screening of urine in school girls, represents a continuous infection with organisms of low pathogenicity. Treatment with antimicrobials appears to have no effect on emergence of symptoms of growth of kidneys. On the contrary, following antibiotic therapy, reinfection with new organisms is rapid and often more damaging to the