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Correspondence

Letters should not exceed 400 words and should be typed double spaced (including the references) and be signed by all authors

TO THE EDITOR, *Genitourinary Medicine*

Treating uncomplicated gonococcal infection with 250 mg or 100 mg ciprofloxacin in a single oral dose

Sir,

Ciprofloxacin is a new quinolone antimicrobial agent with a high in vitro activity against *Neisseria gonorrhoeae* (including strains resistant to penicillin and tetracycline), with minimum inhibitory concentrations (MICs) of 0·004 mg/l to 0·01 mg/l.[1-3] Peak serum concentrations after a single oral administration of 250 mg are generally between 0·5 and 1·4 mg/l, and urinary concentrations usually exceed 100 mg/l up to four hours after oral administration.[4] These pharmacokinetic data and the very low MIC against *N gonorrhoeae* in vitro provide the rationale for using ciprofloxacin as a single dose treatment for gonococcal urethritis.

A total of 60 patients with culture proved *N gonorrhoeae* infection were treated with a single oral dose of 250 mg or 100 mg ciprofloxacin. Of those treated with 250 mg, 22 returned for a follow up visit, as did 25 of those treated with 100 mg. The 22 returning patients treated with 250 mg consisted of 17 men and 5 women with a mean (SD) age of 28·4 (6·4) years, and the 25 treated with 100 mg included 20 men and 5 women with a mean (SD) age of 33·6 (8·5) years.

All genitoanal gonococcal infections were cured after a single oral dose of 250 mg or 100 mg ciprofloxacin. Out of three pharyngeal infections treated, there was one failure in a homosexual man given 250 mg. In this case, however, reinfection was possible.

All six men and two women with concomitant chlamydial infection had *C trachomatis* reisolated at the follow up visit. All six patients infected with a penicillinase producing *N gonorrhoeae* (PPNG) strain were cured after a single oral dose of 250 mg or 100 mg.

Three men treated with 100 mg developed non-specific urethritis after the gonococcal infection had been eradicated, compared with none treated with 250 mg ($p = 0·20$, Fisher's exact test). Two of 10 women treated with 100 mg developed vaginal candidiasis one week after the single oral dose was given. No major side effects were noted; one woman had a maculopapular rash possibly related to the drug and two women complained of nausea.

In the present study a single oral dose of 250 mg or 100 mg of ciprofloxacin was effective in treating uncomplicated gonococcal urethritis in men, with a cure rate of 100% (95% confidence interval: 90 to 100%). In contrast all eight patients with chlamydial infection had persistent infection after a single oral dose of ciprofloxacin. Other studies have shown that, even with a regimen of 500 mg twice daily for one week, 11 out of 14 patients had *C trachomatis* reisolated,[3] and single dose treatments with 500 mg, 250 mg, or 100 mg showed similar failure rates for eradication of *C trachomatis*.[1,5,6]

Yours faithfully,
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TO THE EDITOR, *Genitourinary Medicine*

Single dose piperacillin in gonococcal urethritis

Sir,

We read with interest the recent paper, which concluded that 2 g intramuscular piperacillin with 1 g oral probenecid was a safe and effective treatment for umcomplicated male gonococcal urethritis caused by non-PPNG strains.[1] This confirmed the findings of two previous studies of men,[2,3] though one report recorded a 100% cure rate in non-PPNG infection in women treated with only a single intramuscular dose of 2 g piperacillin.[4]

Impressed by piperacillin's favourable pharmokinetics[5] and by work showing piperacillin to be the most active penicillin against β lactamase negative gonococci,[6] we recently investigated whether a lower dose than 2 g would be effective in managing uncomplicated male gonococcal urethritis. We therefore treated 79 consecutive patients with this initial diagnosis intramuscularly with 1 g piperacillin and 1 g probenecid by mouth. This dose of piperacillin was chosen as it is the smallest commercially available vial. Inclusion, exclusion, and withdrawal criteria were the same as in the study by Thirumoorthy *et al*.[1] Informed consent was obtained from all patients. Follow up assessments were one and three weeks after treatment. Confirmed isolates were tested for β lactamase production by Intralactam strips (Mast Laboratories, UK). Penicillin and piperacillin sensitivity were assessed by disc diffusion methods.

All cultures were β lactamase negative, piperacillin sensitive, and fully penicillin sensitive. Of 74 evaluable cases, 28 (38%) experienced post gonococcal urethritis. There were no treatment failures. The only side effect volunteered by patients was of pain at the injection site (19/74, 26%). In one case this lasted for 18 hours. Although the equivalent side effect rate (72%) in the study by Thirumoorthy *et al* may have been larger due to the greater drug volume administered,[1] we did not specifically seek adverse reactions but elicited them with a simple question. Our results are otherwise comparable with those of the work by Thirumoorthy *et al* and we therefore conclude that where piperacillin is being used to treat uncom-