

ORIGINAL CONTRIBUTIONS

EFFICACY OF SPECTINOMYCIN HYDROCHLORIDE IN UNCOMPLICATED GONORRHOEA IN MALES

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Twenty five adult male patients with uncomplicated acute gonococcal urethritis were treated with a single dose of 2 gm of spectinomycin hydrochloride given intramuscularly. All the patients were cured as proved by negative smears and cultures. No side effects were observed with the drug.

Key Words : Spectinomycin, Gonorrhoea.

Reports of an increasing number of patients becoming sensitised to penicillin and documentation of increase in the strains of *Neisseria gonorrhoeae* acquiring resistance to penicillin has led venereologists and pharmacologists to search for a more suitable antibiotic for the treatment of gonorrhoea. Spectinomycin is an aminocyclitol antibiotic produced by *Streptomyces spectabilis*. The drug is unlike penicillin and as initial therapy, is recommended only for patients having penicillin allergy, or those who are not cured by other antimicrobials¹. The drug has marginal activity against *Chlamydia trachomatis*² and has no effect on the concomitantly acquired incubating syphilis. The present trial was undertaken to study the efficacy of spectinomycin in patients suffering from acute gonococcal urethritis.

Material and Methods

Thirty four consecutive adult male patients suffering from uncomplicated acute gonococcal urethritis were taken up for the study. The diagnosis was based on clinical findings, positive cultures (on Thayer Martin Medium) and/or positive smears by Gram stain.

All patients were administered 2 gm of spectinomycin intramuscularly in a single dose. The patients were seen at 48-hour and one week intervals following treatment. A negative culture in addition to alleviation of the symptoms were taken as the criteria of cure.

Results

Twenty five patients completed the trial and all were cured. In one patient, only 48-hour culture specimen was available, which did not grow organisms. Though this patient did not report for follow up at the end of one week, he was taken as cured. No local or systemic side effects of the drug were observed.

Comments

The recent isolation of B-lactamase producing strains of *N. gonorrhoeae* from many centres in the world^{3,4} and from India (Sharma et al, unpublished data⁵) raises a fear that such strains will get increasingly selected by continued use of penicillin or ampicillin therapy. Although there is no immediate need to change current therapeutic guidelines for routine cases, the use of spectinomycin as initial therapy seems a rational choice in patients having penicillin allergy or harbouring penicillin resistant organisms. Most antibiotics used for treating gonorrhoea may mask or delay the appearance

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of symptoms of incubating syphilis. There is no such fear with spectinomycin as the drug has no effect on treponemes.

Spectinomycin is a relatively non-toxic drug, however, the safety in pregnancy is not established. Minor side effects like soreness at the site of injection, urticaria, dizziness, nausea, chills, fever and insomnia may occur. Renal toxicity has not been reported.

The drug is available as spectinomycin hydrochloride and is rapidly absorbed after intramuscular injection. A single dose of 2 gm produces peak serum concentration of about 100 mcg/ml after one hour. A dose of 4 gm produces serum concentration of about 160 mcg/ml after one hour. Almost all gonococcal isolates are inhibited by 32 mcg/ml of spectinomycin.

Efficacy of spectinomycin in large scale trials in patients of acute gonorrhoea⁶, acute gonococcal pelvic inflammatory disease⁷ and infection with penicillinase producing strains⁸ has been established. However, it has been found to be less effective in oropharyngeal gonorrhoea⁶. Hundred per cent efficacy in gonorrhoea in males and females from India has been observed.^{9, 10}

In the present study, spectinomycin was found to be completely effective in patients with acute gonococcal urethritis. The drug can be safely recommended for use in selected patients of gonorrhoea allergic to penicillin or those not cured with other antimicrobials.

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