INTRAMUSCULAR TETRACYCLINE (ACHROMYCIN) IN THE TREATMENT OF ACUTE GONORRHOEA IN THE MALE *

BY

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Penicillin is used extensively in the routine parenteral treatment of gonorrhoea. At times, however, patients report a history of allergy to this antibiotic. Oral treatment with sulpha drugs and other antibiotics may be used in such cases, but the multiple dose schedule that is usually followed leaves the patient unsupervised when he takes the medication. Often the prescribed directions are not followed; at times the medication is lost; and on occasion it is used for purposes other than intended (such as sharing the medication between sex partners, leaving both undertreated). There is thus a need for a parenteral medication other than penicillin in the armamentarium against gonorrhoea.

Recently tetracycline for intramuscular injection† became available. Since excellent results have been obtained in the treatment of gonorrhoea with the oral form (Metzger, Marmell, and Prigot, 1954; Marmell and Prigot, 1954), it was deemed advisable to test the efficacy of the intramuscular preparation in this disease. This paper presents our data on the use of this antibiotic in 88 cases of acute gonorrhoea.

Method

Tetracycline for intramuscular injection is available in vials containing 100 mg. of the antibiotic with 40 mg. procaine hydrochloride, 46.84 mg. magnesium chloride, and 250 mg. ascorbic acid. The contents of the vial are readily soluble in distilled water or saline solution. Two ml. of the diluent are added to the vial, thus making a solution containing 50 mg. of the antibiotic per ml. We used distilled water in our investigations.

Details of the methods used have been described by Marmell and Prigot (1955). All the patients in this study showed clinical and laboratory (smear and culture) evidence of gonorrhoea. They were considered as cured only if the purulent discharge disappeared and post-treatment smears and cultures were negative, and if there was no relapse during the entire observation period, which was not shorter than 7 days.

Treatment consisted of intramuscular injections of tetracycline in the following dose schedules:

(a) A single injection of 100 mg. of intramuscular tetracycline into the upper outer quadrant of the buttock. Total dose, 100 mg.

(b) Two injections of 100 mg. each given simultaneously into each buttock. Total dose, 200 mg.

(c) Two simultaneous injections of 100 mg. into each buttock on 2 successive days. Total dose, 400 mg.

Of the 88 cases thus treated only 45 were adequately followed-up after treatment, and these form the basis of this report.

Results

The results obtained with the various dose schedules are summarized in the Table.

TABLE
INTRAMUSCULAR TETRACYCLINE IN THE TREATMENT OF ACUTE GONORRHOEA IN THE MALE

Dosage	Total Dose (mg.)	Number of Cases Treated	Number of Cases Followed-up	Cured	Failures	Side Reactions
Single injection	100	8	6	0	6	1
2 simultaneous injections of 100 mg.	200	20	6	0	6	0
2 simultaneous injections of 100 mg. each repeated after 24 hrs	400	60	33	28	5	0

Only the 45 adequately observed cases who received injections of intramuscular tetracycline were considered. Neither the six patients observed out of eight who received a 100-mg. injection nor the six observed out of twenty who received a total dose of 200 mg. responded to treatment. When the dose was increased to 400 mg., 28 (85 per cent.) out of 33 patients were cured.

The patients who responded favourably were cured rapidly, the thick urethral discharge disappearing within 24 hours.

Among the 88 patients receiving tetracycline, there was one allergic reaction to the drug manifested by moderate urticaria and slight oedema of the lips. This patient gave a history of severe allergic reaction to penicillin which had necessitated hospitalization. With this one exception, no toxicity

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† The trade name of the Lederle Laboratories for the antibiotic tetracycline is Achromycin, and the preparation employed was furnished through the courtesy of that company.

of any nature was observed. About 40 per cent. of the patients complained of local pain at the site of injection. This pain lasted in some cases for 48 hours. On the other hand, there were patients who minimized the complaint of pain and found it no more severe than with other types of intramuscular medication with which they were familiar. Objectively there were no local signs of irritation, such as erythema, induration, or evidence of lesions at the sites of injection.

Discussion

Although this study involves a small number of cases it would appear that in adequate doses intramuscular tetracycline is effective in the treatment of acute gonorrhoea. The results indicate that 400 mg. is the minimal dose that should be used, and that larger doses may be more effective.

Intramuscular tetracycline thus lends itself to the treatment of gonorrhoea when parenteral medication is indicated.

Summary

Intramuscular tetracycline was used in the treatment of acute gonorrhoea in the male. Doses of 100 mg. and 200 mg. were found to be inadequate, but 400 mg. of the antibiotic cured 28 out of 33 patients (85 per cent.).

There was one mild allergic reaction in a patient who gave a history of severe allergy to penicillin. Approximately 40 per cent. of the patients complained of pain at the sites of injection.

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