

GONORRHOEA IN FEMALES TREATED WITH ONE ORAL DOSE OF TETRACYCLINE*

BY

DAVID G. McLONE†, TERRENCE E. BILLINGS‡, WILLIAM E. HARDEGREE§,

AND

JAMES F. HACKNEY ||

Fulton County Health Department, Atlanta, Georgia

The aetiological agent of gonorrhoea was indentified in 1879 and the organism was cultured and differentially stained in 1906. Today the gonococcus is responsible for one of the most common infectious diseases, with over one million new cases each year in the United States (U.S.P.H.S., 1965a). Because man seems to develop little or no immunity during acquired infection and because no vaccine is available, antibiotics have remained the only method of cure and of attempted control. Since the discovery of sulphonamides, followed by penicillin and other antimicrobial agents, the prognosis for cure has been good, but unfortunately the gonococcus has developed resistance to each new agent, and the dose of procaine penicillin recommended for the treatment of gonorrhoea in females has climbed to 4·8 million units (U.S.P.H.S., 1965b). Hypersensitivity to penicillin has also been increasing. In a recent study in our clinic, 15 per cent. of patients with gonorrhoea gave a history compatible with penicillin allergy. These problems have created a need for alternative antimicrobial agents.

It is estimated that 95 per cent. of females with gonorrhoea are asymptomatic, yet complications such as salpingo-oophoritis, sterility, pelvic abscess, and arthritis represent a real threat to infected females. Since the development of the Thayer-Martin selective media (Martin, Billings, Hackney,

and Thayer, 1967), the diagnosis of the asymptomatic female with gonorrhoea has been made relatively easy.

In a recent study in our clinic, it was found that a single oral dose of 1·5 g. tetracycline was adequate for cure in 93·8 per cent. of males (McLone, Kiley, and Hackney, 1967). This study was designed to determine the effect of the same treatment in females. Metzger, Marmell, and Prigot (1954), Willcox (1960), and Perkins, Koch, Gara, Stephens, and David (1955), among others, have investigated the use of tetracycline in the treatment of gonorrhoea, but the method of administration and attempts to establish cure have not been adequately studied. Tetracycline, given in one oral dose of 1·5 g., is attractive because of the low toxicity of the tetracyclines, and the fact that large numbers of syringes are not required, so that the handling of a large clinic load is facilitated and the cost is reasonable.

Material and Methods

The patients chosen for study were women referred to the Fulton County Health Department for diagnosis and treatment of suspected gonorrhoea. Between December, 1966, and April, 1967, 100 female patients were selected on the basis of a positive culture for the gonococcus. They comprised 56 per cent. of the total cases examined. Their ages ranged from 15 to 42 years. Only eighteen were married.

The complaint which caused many of the patients to seek advice was a vaginal discharge, but 36 per cent. came because their sexual partners had asked them to "see a doctor". Only 9 per cent. gave a history consistent with pelvic inflammatory disease in the past; none of the 100 patients presented with acute symptoms.

Exudates from patients were collected with a 2-mm. platinum wire loop from the cervical os. Each exudate was immediately inoculated on to a culture plate of Thayer-Martin (TM) selective

*Received for publication November 10, 1967.

†SA Surgeon (R) (T), Venereal Disease Program, National Communicable Disease Center, Public Health Service, U.S. Department of Health, Education, and Welfare, assigned to the Fulton County Health Department, Atlanta, Georgia.

‡Medical Director, Public Health Service, assigned to the Diagnostic and Treatment Center, Fulton County Health Department.

§Medical Technician, Diagnostic and Treatment Center, Fulton County Health Department.

||Commissioner of Health, Fulton County Health Department, Atlanta, Georgia.

Note: Trade names are used for identification only and do not represent an endorsement by the Public Health Service or the U.S. Department of Health, Education, and Welfare.

medium. Presumptive identification of *Neisseria gonorrhoeae* was made on the basis of typical colonial morphology, oxidase reaction, and Gram stain. Sugar fermentation studies were not routinely carried out.

Patients with a positive culture were given a single oral dose of 1.5 g. tetracycline hydrochloride and instructed to return after 48 hours and before 96 hours. Patients returning more than 96 hours after the initial visit were excluded from the study. At follow-up, exudates from the cervical os and urethra were collected and plated on TM medium. Rectal cultures were not performed routinely. A negative result to TM culture at follow-up was used as presumptive evidence of cure. However, in previous work done in this clinic, the rate of false negative cultures has run as high as 10 per cent. in females.

Results

The results achieved with 1.5 g. tetracycline HCl are summarized below.

No. of Patients	No. Returned to Follow-up	No. Positive at Follow-up
100	62	2

Of the two failures, both had positive cultures from the cervix and one had a positive culture from the urethra. The calculated cure rate was 96.8 per cent. with a 3.2 per cent. failure rate. If we assumed the maximum false negative rate for follow-up TM cultures (10 per cent.), the percentage of cures would be reduced to 87 per cent.

Conclusion

Oral tetracycline HCl in a single 1.5 g. dose is an acceptable alternative to penicillin in the management of gonorrhoea in female patients. Considering the increasing rate of penicillin hypersensitivity and the decreasing cost of tetracycline, this antibiotic may become the drug of choice in the treatment of gonorrhoea in females.

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Le traitement de la blennorragie chez la femme par une dose unique de tétracycline par voie buccale

RÉSUMÉ

La tétracycline HCl par voie buccale à la dose unique de 1,5g. est une alternative à la pénicilline qui peut être acceptée dans le traitement de la blennorragie chez la femme. Prenant en considération le taux de l'hypersensibilité à la pénicilline qui augmente et le coût de la tétracycline qui baisse, cet antibiotique pourrait devenir le médicament de choix dans le traitement de la blennorragie chez la femme.