

CASE REPORT

PENICILLIN RESISTANT GONORRHOEA IN TRIVANDRUM

Case Report

By

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The possibility that some of the strains of Gonococci might in time become resistant to antibiotics, had been anticipated. The failure of Penicillin therapy in gonococcal infection may be due to :

1. Failure of the antibiotic to reach the focus in sufficient concentration as a result of inadequate dosage;
2. Deterioration of the antibiotic;
3. Too short a blood level duration from the use of fast acting antibiotics;
4. Too rapid absorption and excretion of the antibiotic;
5. Competition of other micro-organisms for Penicillin;
6. The development of resistant Gonococci.

The increasing incidence of Penicillin resistant gonorrhoea is exemplified by the reports of Reju et al (1958), Cradock and Watson et al (1958), Curtis et al (1958), Durel et al (1961), Raju (1961) (1963), and Gingestz (1961). In India, the occurrence of Penicillin resistant Gonorrhoea was reported from Madras (Rangiah, 1964) and Delhi (1964).

Since Penicillin resistant Gonorrhoea were frequently encountered in the out-patient clinic from early 1965 onwards, at the Medical College Hospital, a detailed procedure of investigations was adopted as a routine and this is the preliminary report of 3 cases.

CASE REPORT : I

A male, aged 26, reported at the out-patient Clinic of the Medical College Hospital, on 8-3-65, and complained of discharge of pus from the urethra and pain during micturition. Urethral smear showed Gram negative intra cellular diplococci. He gave a history of female contact previously. His VDRL. was taken and he was given PAM.2 cc. im. and alkaline diuretic mixture. On 9-5-1965, he reported for review and as there was no improvement, one more injection of PAM. was given. He reported again on 12-5-1965 and said that he had 3 more injections of PAM. from a medical store on his own accord but the clinical picture remained the same. Urethral smear showed Gonococci. His urethral discharge was sent for culture on 14-5-1965 and the report

came as "N, Gonorrhoea" grown in culture, insensitive to penicillin and streptomycin and sensitive to chloramphenicol". He was put on injection Chloramphenicol 100 mgm. I. M. twice a day for one day. The patient was better by next day and his urethral smear was free of all organisms. During the above period, he completely denied any history of sexual contacts or alcoholic intoxications. His VDRL. was negative. The N. Gonorrhoea grown were resistant to penicillin upto 1 unit/ml. but was sensitive in 2 units/ml.

CASE REPORT : 2

Male, aged 29, from outside the city reported with complaints of purulent discharge per urethra and pain during micturition, on 8-5-1965. As urethral smear showed gonococci, he was given one injection of PAM. 2 cc. I.M. and his VDRL. was taken. The discharge persisted when he reported again and was found to be positive for gonococci. Therefore, his urethral smear was taken for culture and he was put on streptomycin one gm. I M. for four days. On 13-5-1965, the urethral smear was still positive and hence he was put on injection chloramphenicol 100 mgm. B. D. for 2 days. He was absolutely free of all discomforts from next day onwards. As expected, the bacteriological report came as N. gonorrhoea grown in culture sensitive to chloramphenicol and resistant to penicillin and streptomycin. His VDRL. was negative. The organism was resistant upto 0.5 Unit/ml. and sensitive at 1 Unit/ml.

CASE REPORT : 3

Male, aged 28 years, reported at the Skin & V. D. out-patient with history of a female contact one week back, and development of purulent discharge per urethra and severe pain during micturition, on 15-6-1965. He had 3 injections from a local practitioner, without any relief. His smear showed gonococci and hence a culture was taken straightaway and the patient was given alkdiuretic mixture. The report came as N. gonorrhoea grown in culture resistant to penicillin and streptomycin and sensitive to Chloramphenicol and Terramycin. He was also given injection of Chloramphenicol 100 mgm. twice a day for two days and was relieved of his complaints. His VDRL. was negative. The organism was resistant upto 2 Units/ml. and sensitive at 5 Units/ml.

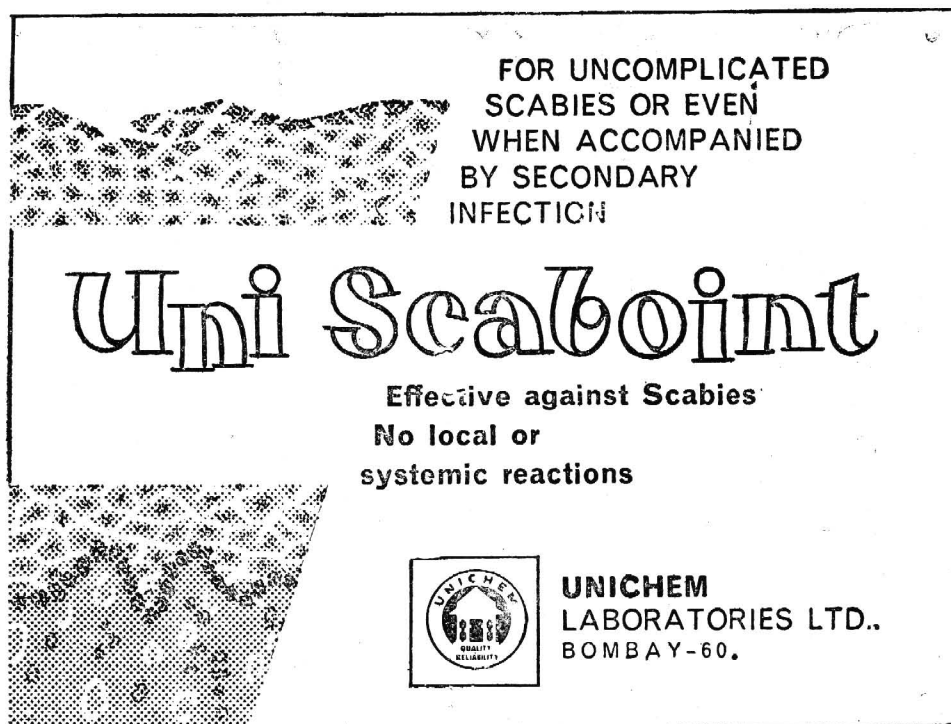
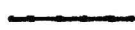
BACTERIOLOGICAL STUDIES.-

The specimens of urethral pus were collected, using sterile cotton swabs and were cultured immediately, on chocolate agar plates. The plates were incubated at 37° C. in an atmosphere of 5-10% CO₂ for 24 hours. Oxidase reaction and sugar fermentation reactions using serum sugars were done. *Mimae-herellia* group of organisms were excluded. The sensitivity pattern of gonococci was studied, using standard discs purchased commercially. The penicillin concentration in the disc was 10 units. Penicillin resistant strains were tested to find out the minimum inhibitory concentration by the plate-dilution method. The concentrations used were 0.1 unit/ml., 0.3 unit/ml., 0.5 unit/ml., 1 unit/ml., 2 units/ml., and 5 units/ml.

DISCUSSION

Three cases of penicillin resistant gonorrhoea are reported. The cases came from different parts of the district and the contacts were different. The strains were found to be resistant to high concentrations of penicillin by the plate dilution method. In the beginning, when Penicillin was discovered, the gonococcus was one of the most susceptible organisms in its action in concentrations of 0.03 to 0.06 unit/ml. Curtis and Wilkinson (1958) reported the occurrence with sensitivities varying between 0.125 and 0.5 Units of penicillin/ml. Cradock et al studied 200 patients and reported that many isolates required over 1 Unit/ml. of penicillin to inhibit growth.


The reason for the occurrence of penicillin resistant gonorrhoea might possibly be due to incomplete treatment by quacks. The incidence of similar cases will be on the increase, because in none of the above cases we could get the contacts for investigations and treatment. The spread of resistant strains from other parts of India through tourists cannot also be ruled out.



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