

## DEVELOPMENT OF RESISTANCE OF *N. GONORRHOEAE* TO PENICILLIN IN DUBLIN\*

BY

F. M. LANIGAN-O'KEEFE

*Dublin Health Authority, Dublin, Eire*

During the past 5 years, a marked change has been found in the response to treatment by penicillin of cases of gonorrhoea attending the Dublin clinics. A survey of patients attending the clinic at the Mater Misericordiae Hospital in 1958 showed a cure rate of 96 per cent. in patients treated with a single injection of 0·3 mega units P.A.M. In 1959 was seen the first case of gonorrhoea that failed to respond to penicillin despite a dosage of 0·6 mega units daily for 7 days; the patient who had contracted his gonorrhoea from a London prostitute was ultimately treated with oxytetracycline with a satisfactory result. During 1959, several cases required increased dosage to clear their urethritis and in the latter half of that year it was decided to increase the routine dosage to 0·6 mega units P.A.M.

In 1960, in view of reports of the need for larger amounts of penicillin from other countries, the routine dosage was increased to 1·2 mega units P.A.M., in two divided doses on consecutive days. This seemed to be satisfactory but because of the increasing number of reports of the need for even larger dosage the routine in Dublin was raised to 1·8 mega units P.A.M. During 1961, the number of cases which failed to respond to 1·8 mega units rose to 14 per cent. In this year it became possible to obtain sensitivity determinations and in the majority of cases it was found that the *in vitro* sensitivity corresponded to the clinical results. In 1962, the failure rate with 1·8 units of P.A.M. had risen to 19 per cent., and the use of an aqueous solution of procaine penicillin did not appear to alter the failure

rate. Since the first case was observed in 1959, there has been no significant difference in the failure rate between those who acquired their infection in Dublin and those who were infected in other countries. An interesting feature of the sensitivity determinations was that the majority of the gonococci isolated were resistant to sulphonamides.

The majority of cases who defaulted after a single injection of 0·6 mega units of P.A.M. but were subsequently persuaded to return to the clinic, were found to be clear of urethritis. It was also noted that there was a marked difference in the duration of the urethral discharge in those patients who completed their course of treatment. A considerable number became dry on the morning after the initial injection, but others did not become clear until the third day.

### Summary

An investigation of the incidence of gonorrhoea resistant to penicillin in Dublin suggests that there has been a considerable increase in the number of strains less sensitive to penicillin, while a number of the strains in circulation have retained their full sensitivity.

### Résistance de *N. gonorrhoeae* à la pénicilline à Dublin

#### RÉSUMÉ

Une enquête sur la résistance de la blennorrhagie à la pénicilline à Dublin révèle que si les souches peu sensibles à ce médicament deviennent beaucoup plus nombreuses, plusieurs retiennent leur sensibilité.

\* Paper read at M.S.S.V.D. meeting at Copenhagen, June 7, 1963.