

β -LACTAMASE-PRODUCING *NEISSERIA GONORRHOEAE* IN UNIVERSITY HOSPITAL, KUALA LUMPUR

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Total resistance to penicillin among the gonococci appeared in early 1976 with the isolation of β -lactamase-producing strains in Britain and the USA.¹ The genetic determinants of β -lactamase production have been found to be plasmid-borne. At least two species of plasmids have been characterised. One was obtained from a strain of gonococcus imported to London from Ghana² and the other came from the Far East.³ South-East Asia appears to be a hyperendemic area for the Far-Eastern plasmid which has been isolated from many different strains of gonococci.

We would like to report here the first two cases of gonorrhoea by β -lactamase-producing gonococci seen in the University Hospital, Kuala Lumpur.

CLINICAL REPORT

A 30 year old Malay man was seen on 5.10.77 complaining of dysuria and a urethral discharge. He admitted having had sexual relations with a woman that he met in a local hotel one week before the onset of his symptoms. A Gram stain of his urethral discharge showed numerous intracellular Gram-negative diplococci and he was given an intramuscular dose of 4.8 mega-units of procaine penicillin preceded by 1 gram of probenecid. The patient's wife was contacted and since her endocervical smear also showed intracellular Gram-negative diplococci, she was given the same penicillin treatment.

At the first weekly follow-up, the patient still had a very purulent urethral discharge and his wife developed proctitis in addition to her cervicitis. They were given cotrimoxazole 2 tablets twice a day for three days but this made no improvement. They were then treated with a 2 gram intramuscular dose of kanamycin which finally cleared their symptoms.

From both the patient and his wife, *N. gonorrhoeae* was isolated on modified Thayer-Martin agar and identified by the oxidase reaction, direct fluorescent antibody staining

and glucose utilization. The two strains were routinely tested for penicillin susceptibility on chocolate agar, using 10 I.U. Penicillin discs. When no inhibition zones appeared on the sensitivity plates, both strains were tested by the rapid iodometric method and were found to be β -lactamase producers.⁴ These strains were then sent to Dr. Clyde Thornsberry at the Centre for Disease Control, Atlanta, Georgia, who confirmed the β -lactamase production and reported a penicillin MIC of 16 μ g/ml.

DISCUSSION

These two strains were the only β -lactamase producers out of 72 strains of *N. gonorrhoeae* isolated in our laboratory from February 1977 to February 1978. This apparently low incidence may not reflect the true experience in other parts of the country. A more intensive surveillance programme needs to be organized to determine the extent of dissemination of β -lactamase producing strains and to prevent infections by such strains from reaching epidemic proportions. All doctors especially private practitioners who see the bulk of gonorrhoea patients should be encouraged to notify all cases, perhaps to a central registry which records all relevant information regarding patients, contacts, antibiotic susceptibilities and antibiotic therapy. Data so collected would provide a ready source of information and useful pointers to problem areas in gonorrhoea control.

ADDENDUM

Since this preliminary communication was written, we have isolated a further 4 strains of β -lactamase-producing *N. gonorrhoeae* from patients seen in the University Hospital, K.L. and 3 strains from patients seen in other hospitals. These strains were all isolated within a short period of 3 months from April to June 1978. No new methods of isolation or identification have been employed to account for this

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sudden clustering of positive isolates. The Institute of Medical Research, K.L. has also a collection of 9 such strains, 6 of which have been isolated within the months of May and June 1978.⁵ We believe this may indicate a true increase in incidence and look forward to a more organised, nationwide attack on this problem.

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