

# PATTERN OF URETHRITIS IN MALES IN A KUALA LUMPUR STD (Sexually transmitted diseases) CLINIC

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## SUMMARY

*One hundred and thirty-eight male patients presented with a total of 146 episodes of urethritis at a Kuala Lumpur STD clinic over a period of six months. Gonorrhoea accounted for almost 4 out of 5 cases of male urethritis. The incidence of beta-lactamase producing strains of Neisseria gonorrhoeae was 36 percent. Furthermore nearly 3 out of 10 cases of gonococcal urethritis developed post-gonococcal urethritis.*

## INTRODUCTION

The major single etiological entity of urethritis in males is *Neisseria gonorrhoeae*. Urethral inflammation of all other causes is referred to collectively as non-gonococcal urethritis (NGU). Gonorrhoea and NGU are currently the most common forms of sexually transmitted diseases in western countries and among the most frequently encountered of infectious diseases (Hansfield,

1978). This study seeks to establish the pattern of urethritis among males attending the STD clinic at the Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur.

## MATERIALS AND METHODS

The period of study was from 1.8.1980 to 31.1.1981. During this six-month period, 138 male patients presenting with a total of 146 episodes of urethritis was seen at the STD clinic. Each episode of urethritis represented a new infection and 8 patients presented with 2 separate episodes of urethritis each over this six-month period. Urethral discharge was obtained from each patient using a sterile wire loop and was immediately plated onto chocolate agar and VCNT (vancomycin, colistin, nystatin and trimethoprim) agar. Both selective and non-selective media were used to ensure that strains of *Neisseria gonorrhoeae* which were inhibited by selective media were not missed. The agar plates were placed in a candle jar and sent to the bacteriology laboratory within 2 hours of initial plating.

In addition a smear of the urethral discharge was made on a clean microscopic glass slide and stained by Gram's method. The smear was examined for

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TABLE I  
CORRELATION BETWEEN SMEAR AND CULTURE  
RESULTS IN 146 EPISODES OF URETHRITIS IN  
MALES

Culture	Smear		
	Intracellular GND seen	Intracellular GND not seen	Total
<i>N.gonorrhoeae</i> isolated	113	1	114
<i>N. gonorrhoeae</i> not isolated	1	31	32
Total	114	32	146

the presence of intracellular Gram-negative diplococci (GND). A semiquantitative count of the number of pus cells seen per high power field (hpf) was also made. In the laboratory the agar plates were incubated at 37°C and examined after 24 hours. Negative plates were returned to the incubator and examined after a further 24 hours incubation. *Neisseria gonorrhoeae* was identified in the usual manner (colonial morphology, Gram staining and oxidase test) and the identity confirmed by a co-agglutination test (Phadebact Gonococcus Test, Pharmacia Diagnostics). All isolates of *Neisseria gonorrhoeae* were tested for their ability to produce beta-lactamase using a commercial filter paper strip method which is based on a technique described by Slack *et al* (1977). No attempt was made to culture mycoplasma or chlamydia. All patients were requested to return for a re-examination after 3 to 5 days when a repeat smear and culture was done.

## RESULTS

Of the 138 patients, 58 were Malays, 41 were Indians, 36 were Chinese and 3 were of other racial origins. Their ages ranged from 17 to 77 years but nearly three-quarters of the patients were in the 20 to 29 years age group. Of the 146 episodes of urethritis, 115 (79 percent) were diagnosed as gonococcal urethritis and 31 (21 percent) were diagnosed as NGU. The correlation between the smear result and the culture result is shown in Table I.

Table II shows the correlation between the number of pus cells in the smear per hpf and the nature of the urethritis.

TABLE II  
CORRELATION BETWEEN NUMBER OF PUS CELLS  
PER HPF IN SMEAR AND NATURE OF URETHRITIS  
IN 146 EPISODES OF MALE URETHRITIS

	Number of pus cells/hpf			
	1-3	4-10	>10	Total
Gonococcal	0	0	115	115
Non-gonococcal	11	7	13	31
Total	11	7	128	146

Of the 114 isolates of *Neisseria gonorrhoeae* obtained, 41 (36 percent) were found to be betalactamase producers. All 114 isolates grew equally well on chocolate and VCNT media.

Thirty-three (29 percent) of the 115 episodes diagnosed as gonococcal urethritis were complicated by post-gonococcal urethritis (PGU). PGU was diagnosed when symptoms of urethritis persist or recur after a few days despite adequate therapy for gonococcal urethritis. All these cases gave negative smear and culture results in the presence of a persistent urethral discharge after the initial anti-gonococcal treatment.

## DISCUSSION

Gonococcal urethritis is the most common cause of urethritis in males seen in a Kuala Lumpur STD clinic. It accounts for approximately 4 out of 5 cases of male urethritis. This pattern is quite different from that seen in western countries where NGU is at least as common as gonococcal urethritis (Handsfield, 1978; Jacobs and Kraus, 1975). In the United States NGU is more commonly seen in the higher socioeconomic groups (McChesney *et al*, 1973). This may be due to the fact that NGU is a milder disease and the lower socioeconomic groups may not come for treatment unless the symptoms are more severe. The sample in this study is too small and the population not representative enough to establish any pattern pertaining to the distribution of gonococcal and non-gonococcal urethritis in the Malaysian population. However one possible reason for the relatively low occurrence of NGU seen in this clinic could be due to the fact that the clinic is a government clinic where the

clientele is largely from the lower socioeconomic groups.

The sensitivity of the microscopic examination of the smear (i.e. the percentage of culture positive cases correctly identified as positive on smear) is 99.7 percent and correlates well with the figure obtained in a large London STD clinic (Rothenberg *et al*, 1976). In one case the smear was positive but the culture was negative. This particular patient was seen by a general practitioner and given antibiotics prior to presenting at the STD clinic. The failure to isolate *Neisseria gonorrhoeae* from him may be due in part to the prior antibiotic treatment. Quantitating the number of pus cells per hpf in the smear does not appear to be very helpful in distinguishing gonococcal from non-gonococcal urethritis although the presence of less than 10 pus cells per hpf makes the diagnosis of gonorrhoea unlikely.

The percentage of beta-lactamase producing strains of *Neisseria gonorrhoeae* is 36 percent. This high incidence of beta-lactamase producing strains has previously been reported in Malaysia by Ngeow and Thong (1979). They reported an incidence of 20 percent over a 22 month period (February 1977 to November 1978) but noted that the incidence for the last four months of their study is as high as 33 percent. In such a situation the use of a beta-lactamase sensitive antibiotic such as ampicillin as a routine first line drug invariably results in an unacceptably high failure rate as shown previously by Bakar and Lim (1980).

As many as 3 out of 10 patients who presented with gonococcal urethritis develop PGU despite adequate therapy for gonorrhoea. Although originally thought to result from the consumption of alcohol or other irritants during therapy for

gonorrhoea, PGU is now established as being the result of a dual infection. Chlamydia has been shown to be responsible for a proportion of the cases of PGU (Richmond *et al*, 1972). All the cases in this study responded to an additional course of deoxycycline or minocycline.

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