

Correspondence

TO THE EDITOR, *British Journal of Venereal Diseases*

Higher incidence of asymptomatic gonorrhoea in men with initial infection than with reinfection

Sir,
Despite worldwide efforts to fight gonorrhoea this sexually transmitted disease (STD) still constitutes a serious problem. Strains of gonococci with low sensitivity to penicillins or enzymatic resistance may be responsible for treatment failures. Asymptomatic infections also contribute to the continued high frequency of gonorrhoea. This problem is well recognised in gonorrhoea in women.

A retrospective study was carried out on 2506 patients who attended the STD clinic at the Oslo Board of Health during the months of January to June 1980. Gonorrhoea was diagnosed in 236 (12.4%) of 1908 men and in 123 (20.6%) of 598 women. Information on symptoms, signs, and histories of STD, particularly gonorrhoea, was recorded from the patients' case notes. Diagnosis of gonorrhoea was based on positive microscopical findings, positive culture, or both. Statistical analysis was carried out by the Student's *t* test and χ^2 test.

In 31 cases information on symptoms, signs, or both was missing and these cases were excluded from the analysis. Of 119 men with no previous history of gonorrhoea, 16 (13.4%) were asymptomatic, while only 4.7% of men with reinfection were asymptomatic. The difference was significant ($p < 0.05$). A similar trend was observed for signs, but the difference was not significant. In women symptoms of gonorrhoea were absent in 47 (38.3%) cases but no differences were seen between reinfected women and women who had not previously been infected with gonorrhoea.

Asymptomatic genital infections are important for at least two reasons; continued sexual activity contributes to a high incidence of the disease, and complications such as epididymitis or salpingitis may develop. This in turn may cause infertility and (in women) ectopic pregnancy. A Swedish study has recently shown that there has been a fourfold increase over the past decade in pelvic inflammatory disease (PID) in women under 20.¹ These infections were predominantly sexually transmitted,

the responsible micro-organism having been *Chlamydia trachomatis* more often than *Neisseria gonorrhoeae*.

As many as 10% of unselected women attending a gynaecological ambulatory clinic may have asymptomatic gonococcal infection.² In 203 consecutive men with gonorrhoea attending an English STD clinic 36 (18%) were asymptomatic.³ Our results indicate that asymptomatic gonorrhoea is more liable to occur in people with initial gonococcal infection. We therefore recommend that specimens are cultured for gonococci from young men seeking advice for other sexually transmissible diseases such as genital herpes, molluscum contagiosum, condyloma accuminatum, scabies, and pediculosis.

Attempts to explain our observations are speculative. It may be that sensitisation develops during the initial infection, and cellular or humoral immune mechanisms may contribute to the symptoms of subsequent infections.

Yours faithfully,

G Kavli*

K M Saetrom*

T Gundersen†

G Volden*

*Department of Dermatology, Tromsø University, and
†Oslo Board of Health, Division of Skin and Venereal Diseases, Norway.

References

1. Weström L, Mårdh P-A. Incidence prevalence and trends of acute pelvic inflammatory disease and its consequences in industrialized countries. *Am J Obstet Gynecol* 1980; **138**:880-5.
2. Iha PK, Singh G, Kaur P, Sharma D. Un-suspected gonococcal infection in female patients. *Br J Vener Dis* 1978; **54**:324-5.
3. John J, Donald WH. Asymptomatic urethral gonorrhoea in men. *Br J Vener Dis* 1978; **54**:322-3.

TO THE EDITOR, *British Journal of Venereal Diseases*

Comparison of amoxycillin and procaine penicillin in the treatment of uncomplicated gonorrhoea

Sir,
Single dose oral treatment for uncomplicated gonorrhoea is increasingly preferred

by patients and doctors. Oral amoxycillin has been available since 1970,¹ yet there are relatively few published studies of its use in gonorrhoea. Conflicting claims of efficacy using different treatment schedules in various geographical locations have been made.²

This study compares the recommended dose of amoxycillin³ with our standard treatment for uncomplicated gonorrhoea. A total of 198 patients with gonorrhoea at two adjacent (eight miles apart) clinics were included. The age range, sex distribution, and ethnic origins were similar. Patients were excluded if there was a history suggestive of: allergy to penicillin; antibiotic treatment in the previous two weeks; having acquired the infection in areas where β -lactamase producing gonococci are common; or reinfection before completing tests of cure.

A presumptive diagnosis of gonorrhoea was made on the results of Gram stained smear microscopy of urethral, cervical, and rectal smears. Swabs from these sites, and from the pharynx where indicated, were cultured as described elsewhere.⁴ Identification tests included typical colonial morphology, oxidase reaction, Gram stained appearance, and sugar fermentation patterns. Relatively resistant strains (MIC ≥ 0.125 mg/l) were tested for β -lactamase production with the chromogenic cephalosporin test. Patients were treated with either 3 g amoxycillin suspension plus 1 g probenecid or 2.4 MU procaine penicillin intramuscularly preceded by 1 g oral probenecid. All patients were advised to refrain from sexual intercourse and report for tests of cure three and 10 days later. All were screened for syphilis and other sexually transmitted diseases. Gram stained smears, cultures, or both were repeated on the third day for men but on both the third and 10th days in women. Symptomatic men whose urethral smears showed more than 10 pus cells per high power field but no diplococci were deemed to have post-gonococcal urethritis when seen on the 10th day.

The results shown in the table relate to 172 patients (26 having been excluded). Of the five treatment failures, four (one in the group treated with amoxycillin and three those treated with procaine penicillin) were associated with non- β -lactamase producing penicillin resistant organisms. The fifth

TABLE Results of treatment

Treatment	No (%) cured		No (%) treatment failures	No (%) developing PGU*
	Day 3	Day 10		
Amoxycillin 3 g + probenecid 1 g:				
Men (n = 43)	42 (97.7)	42	1	6 (14.3)
Women (n = 42)	41 (97.6)	41	1	
Total (n = 85)	83 (97.6)	83	2 (2.4)	
Procaine penicillin 2.4 MU + probenecid 1 g				
Men (n = 51)	49 (96.1)	49	2	10 (20.4)
Women (n = 87)	35 (97.2)	35	1	
Total (n = 87)	84 (96.6)	84	3 (3.4)	

PGU = post-gonococcal urethritis

failure was due to vomiting half an hour after taking oral amoxycillin. All failures were either urethral or urethral and cervical infections. All five oropharyngeal and six rectal infections responded to treatment. Apart from injection pain, there were no adverse reactions to procaine penicillin. Of the two who vomited half an hour and an hour after receiving oral amoxycillin, the former proved to be a treatment failure. Three other patients reported dizziness, loose bowel motions, and a feeling of abdominal fullness with loss of appetite and distaste for smoking.

This study shows that 3 g amoxycillin orally and 2.4 MU procaine penicillin are equally effective in treating uncomplicated gonorrhoea in either sex. Amoxycillin is well tolerated and has few minor side effects.^{2,5} Pharyngeal gonorrhoea is known to be difficult to eradicate with single dose oral treatment.⁵ Drug regimens have varied, however, and Felman successfully treated all of four cases of pharyngeal gonorrhoea with 3 g oral amoxycillin plus 1 g probenecid.⁶ Two of the five cases cured in this study had received the same treatment, the other three had been treated with procaine penicillin. A prospective study of a larger number of patients with oropharyngeal gonorrhoea treated with adequate doses of amoxycillin and probenecid is needed to assess the efficacy of amoxycillin in this condition.

Although post-gonococcal urethritis (PGU) developed in more patients treated with procaine penicillin than with amoxycillin, the difference was not significant ($p = 0.05$). The wide range in the reported incidence of PGU probably reflects differing diagnostic criteria and the diligence with which it is sought.⁷

Amoxycillin is a pleasant tasting suspension, is easily and rapidly absorbed, and has few minor side effects. It therefore seems to be a suitable alternative to injectable pre-

parations and may be recommended for children, those who cannot swallow tablets or capsules, and those who dread injections. Even on the most favourable terms, however, a 3 g sachet still costs five times 2.4 MU procaine penicillin or a comparable dose of ampicillin.

Yours faithfully,
J A Apaya

Department of Genitourinary Medicine,
Sunderland District General Hospital,
Sunderland SR4 7TP

References

1. Sutherland R, Croydon EAP, Rolinson GN. Amoxycillin: a new semi-synthetic penicillin. *Br Med J* 1972;iii:13-6.
2. Goodhart GL. Treatment of uncomplicated genital gonorrhoea. *Sex Transm Dis* 1979;6 suppl:126-40.
3. Centers for Disease Control. CDC recommended treatment schedules for gonorrhoea—1979. Atlanta, Georgia: Centers for Disease Control, 1979.
4. Martin JE Jr, Billings TE, Hackney JF, Thayer JD. Primary isolation of *N gonorrhoeae* with a new commercial medium. *Public Health Rep* 1967;82:381.
5. Odegaard K, Gunderson T. Gonococcal pharyngeal infection. *Br J Vener Dis* 1973;49:350-2.
6. Felman YM, William DC, Corsaro MC. Comparison of ampicillin plus probenecid with amoxycillin plus probenecid for treatment of uncomplicated gonorrhoea. *Sex Transm Dis* 1979;6:73-4.
7. Willcox RR. The epidemiological importance of concealed non-gonococcal urethritis. *Br J Vener Dis* 1979;55:140-53.

TO THE EDITOR, *British Journal of Venereal Diseases*

Imported PPNG endemic in London

Sir,
Thin *et al* (*Br J Vener Dis* 1983;59:364-80.) provide us with a thorough breakdown of

the numerical and demographic details of the above development. As far as it goes, the article is sound, but it is so simplistic and sad. Simplistic and sad because it treats the dynamics of the development superficially and with resignation. At all levels there is lack of integration of the concepts of epidemiological awareness and appropriate control endeavours.

For example, we learn nothing of any discussions leading to agreement that London was the country's most likely target area for the main PPNG invasion in the mid-1970s. There is no evidence that any effort was made to establish a comprehensive control programme to meet such a situation, such as bacteriological monitoring and reporting, special educational activities, or a strengthening of contact tracing services. That no special efforts were made even after the invasion was under way is suggested in the revelation that follow up "principles" apparently remained unaltered from those embraced nearly 20 years ago.

Such remarks as "Casual partners and prostitutes . . . are notoriously difficult to trace" and "While the proportion of PPNG strains is still relatively low, the rate of increase is alarming" seem more likely to engender continuing ennui rather than action.

Saddest of all perhaps, is that there is no discussion as to why Liverpool succeeded in containing its outbreak and London so conspicuously failed. It is perhaps excusable that London failed to control the invasion. What is surely inexcusable is that those concerned failed to try. Even now there is no evidence or promise that we in the provinces can hope for more enlightened neighbours.

The article of Thin *et al* does have positive and hopeful aspects. It serves to remind all STD workers in the United Kingdom that some 40% of the country's STD infection occurs in London. It should be clear to workers in the centres of excellence of the metropolis that competition between them is not enough. They have on occasion an obligation to seek consensus and act cooperatively in the national interest. Secondly, and more important, there is now a third, potentially effective, option in the debate as to whether we do or do not want audit—we can publish and find ourselves damned.

Yours faithfully,

R S Morton

Sheffield