Correspondence

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TO THE EDITOR, Genitourinary Medicine

Penicillinase producing Neisseria gonorrhoeae in a hospital in Barcelona, Spain

Sir,

In 1976 the first strains of Neisseria gonorrhoeae containing plasmids that encode for TEM-1 type enzymes (β-lactamases) similar to those found in Escherichia coli and Haemophilus influenzae were isolated in west Africa and South East Asia.1 In a few years these penicillinase producing strains of N. gonorrhoeae (PPNG) spread from their original locations to Europe and America. They are fully resistant in vivo to benzylpenicillin, ampicillin, and some cephalosporins.

Infections caused by PPNG strains usually appear in poor social environments. Our municipal hospital serves the population around Barcelona’s sea port, where prostitution is widespread. It is a charity hospital with 450 beds, and has a drug addiction treatment service.

A retrospective review of N. gonorrhoeae isolates, with particular attention to β-lactamase production, shows a large increase in PPNG strains in our hospital during the past two years. In 1984 the first two PPNG strains, which accounted for 5% of all isolates, were found. In 1985 the prevalence of PPNG was already 20% of all isolates.

Culture of the organism and strain identification were performed using standard methods; β-lactamase production was detected by the chromogenic cephalosporin (Nitrocephin, Oxioid) and acidimetry (Betatext, Rosco) methods.

Table I shows gonococcus isolation in 1985 according to sex and β-lactamase production. Our risk group was made up of young women aged 16 to 38 (mean 25) years, parents of drug abusers, and prostitutes.

Table II Clinical presentation of gonococcal infection in 24 women

<table>
<thead>
<tr>
<th>Pelvic inflammatory disease (PID)</th>
<th>PPNG</th>
<th>Non-PPNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal childbirth</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Inguinal adenitis with secondary syphilis</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>PID and perirectitis</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Vaginosis</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

PPNG = penicillinase producing Neisseria gonorrhoeae.

(85%). Table II shows clinical presentations in the 24 women patients. Of seven with PPNG infection, four had positive results in serological tests for syphilis (rapid plasma reagin (RPR), fluorescent treponemal antibody (FTA), or both) and one had four concurrent sexually transmitted diseases: syphilis, gonorrhoea, anogenital warts, and pubic pediculosis. All the men had acute urethritis. A neonate born to a drug addict mother had ophthalmia neonatorum caused by N. gonorrhoeae susceptible to penicillin.

As clinical and microbiological follow up is very difficult in these patients, it has been necessary to change treatment regimens for this risk group.

Yours faithfully,
T Baró,
J Garcia,
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References

TO THE EDITOR, Genitourinary Medicine

Infection with penicillinase producing Neisseria gonorrhoeae in Catalonia

Sir,

Since their simultaneous description in 1976 by Phillips1 and Ashford et al.2 penicillinase producing strains of Neisseria gonorrhoeae (PPNG) have been reported worldwide. Epidemiological studies have shown that there are two endemic areas of infection: the far east (Thailand, the Philippines, Korea, and Hong King) and west Africa (Nigeria and Ghana); strains from such areas have, in addition, characteristic plasmid patterns. In Spain the first patient infected with a PPNG strain, a young man who had acquired the disease in Thailand, was observed in 1979.3 Infections that had been acquired in Spain were later reported but, with the exception of some self limited outbreaks, the percentage of PPNG strains rarely exceeds 5% in our country.4 Until 1984 PPNG strains accounted for 5.4% of gonococcal isolates found in our hospital, but from then on the incidence of infections with such strains has increased dramatically.

From January 1985 to May 1986 we isolated N. gonorrhoeae from 89 patients (96 cases, 94 strains). Each patient was

Table I Characteristics of 89 patients with gonorrhoea

<table>
<thead>
<tr>
<th>Total patients with gonorrhoea</th>
<th>Patients with PPNG strains</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of patients</td>
<td>89</td>
</tr>
<tr>
<td>No of strains</td>
<td>94</td>
</tr>
<tr>
<td>Age range (mean) (years)</td>
<td>5.63 (27.6)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>65</td>
</tr>
<tr>
<td>White</td>
<td>23</td>
</tr>
<tr>
<td>Arabic</td>
<td>1</td>
</tr>
<tr>
<td>Sex (ratio of men:women)</td>
<td>78:11 (24:1)</td>
</tr>
</tbody>
</table>

PPNG = penicillinase producing strains of Neisseria gonorrhoeae.
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