

first follow up test results, 188 (84%) attended for a second follow up appointment, usually a week later. Gonorrhoea was detected in three women (2%). Reinfection was suspected in two cases, but the third was considered to be a treatment failure. Of the 185 women with satisfactory second follow up test results, 117 (63%) attended for a third follow up appointment, up to four weeks later. *N gonorrhoeae* was isolated from two women, but both were considered to be reinfected.

With the diagnostic tests in use in our clinic, 2% of women infected with gonorrhoea require two sets of tests for diagnosis. If only one test of cure had been carried out, two early reinfections and one treatment failure would have been missed. We therefore believe that two follow up appointments are necessary after treatment.

Yours faithfully,
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TO THE EDITOR Genitourinary Medicine

Paediatric gonorrhoea, sexual abuse, and towels

Sir,
Widespread professional denial of the sexual abuse of children is, unfortunately, supported by the recent article "Paediatric gonorrhoea: non-venereal epidemic in a household."¹ Though sexual abuse was considered by the authors, the impression given was that the child's denial of abuse led to acceptance of the "towel theory" as the source of the primary and secondary infections, even in the face of the refusal of the 18 year old family friend to submit to testing. Nothing is said about the possibility of her having had a male companion, as another possible source. When children are questioned, the possibility of sexual contact is usually initially denied. Unless the professionals investigating a child with gonorrhoea are highly skilled in conducting diagnostic disclosure interviews, the investigation will often cease at this initial denial. The absence of physical signs of

sexual abuse in no way rules such abuse out.²

It is well documented that children with gonorrhoea become infected in the same way as adults, that is by sexual contact, either with adults or with other children.^{3,4} Exceptions are unusual and unlikely.^{3,5} To my knowledge, there is no evidence that the prepubertal vagina is "predisposed" to gonococcal infections. It does, however, become infected after contact with a source of gonorrhoea, whereas after puberty the cervix only may be infected because of differences in the epithelium.

Reports of pharyngeal gonorrhoea in children note the high probability of sexual abuse as the source.^{6,7} At Duke University Medical Center, three site cultures for gonorrhoea are almost always undertaken for children being evaluated for genital discharge or possible sexual abuse. Since 1980, two young girls and one boy have been found to have pharyngeal gonorrhoea. Other sites cultured in these children gave negative results. All three children were found by additional criteria to have been sexually abused.

To attribute gonococcal infection in children to transmission from fomites, despite the strong evidence for sexual contact, is to leave children unprotected against future abuse.

Yours faithfully,
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TO THE EDITOR Genitourinary Medicine

In vitro activity of 14 antimicrobial agents against *Neisseria gonorrhoeae* from Spain

Sir,

The prevalence of gonorrhoea throughout the world and the increasing number of infections caused by penicillinase producing *Neisseria gonorrhoeae* (PPNG) is a cause for concern. Additionally, the increased incidence of strains with reduced susceptibility to penicillin (MIC \geq 0.05 mg/l),¹ and the appearance of spectinomycin resistant strains,^{2,3} provide an incentive to search for new drugs that can be used as alternatives in the treatment of gonorrhoea and to develop a surveillance model in Europe.

We present here the susceptibility of 50 non-PPNG and 25 PPNG strains (recently isolated in Spain) to the following antimicrobials: penicillin, ampicillin, cefuroxime, cefonicid, ceftriaxone, spectinomycin, tetracycline, erythromycin, RU-28965, rosoxacin, ofloxacin, norfloxacin, enoxacin, and ciprofloxacin. Susceptibility tests were performed as described by Meheus *et al.*⁴

The table shows the activities of the 14 antimicrobial agents against both PPNG and non-PPNG strains were ceftriaxone, ciprofloxacin, ofloxacin, and rosoxacin.

Several assays of antimicrobial activity against both PPNG and non-PPNG strains have been compared. These comparisons have varied somewhat in methods, strains, and results, but we know of no study from Spain using antimicrobials. Nevertheless, most assays confirm our results, showing ceftriaxone and cefuroxime as highly active against *N gonorrhoeae*,^{5,6} and of the quinoline derivatives, all studies confirm that ciprofloxacin is the most active.^{7,8}

On the basis of the in vitro susceptibility and pharmacological and treatment assay data of all the drugs tested, cefuroxime, ceftriaxone, cefonicid, ofloxacin, ciprofloxacin, and rosoxacin seem to be the most appropriate alternatives to penicillin and spectinomycin. The potential of the quinolones, however, as single dose treatment drugs, and their antimicrobial activity against

other bacterial parasites of the genital tract,⁹ make them promising candidates for treating gonorrhoea.

Yours faithfully,
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TO THE EDITOR, *Genitourinary Medicine*

Anal warts in heterosexual men

Sir,
Previous reports have suggested that many men who have anal warts practise anal receptive intercourse.^{1,2} We suggest that if men who have not engaged in that practice are examined, anal warts are more common than is supposed.

In a three month period in 1986 we studied 60 consecutive men with penile warts of less than one month's apparent duration. A full sexual history, particularly of anal receptive intercourse, was taken. On clinical examination we noted not only penile warts, but also

oral and anal ones. If anal warts were seen, proctoscopy was performed. Signs of other sexually transmitted diseases (STDs) were noted. Appropriate microscopical, microbiological, and serological tests were made for concomitant STDs.

Of the 60 men with penile warts (mean age 23, range 17 to 20), one was homosexual and 24 (40%) had recently engaged in orogenital sexual practices. The table shows the parts of the penis where condylomata acuminata were found. Many men had warts at more than one site.

TABLE Incidence of genital warts at different penile sites

Parts of penis	No of patients
Prepuce	30
Fraenum	15
Shaft	13
Meatus	11
Corona	8
Crural fold	8

Anal warts were found in 18 (30%) men, and in four the rectal canal (above the dentate line) was affected. Oral warts were found in three men. Concomitant STDs were found in 20 (33%) patients, the most common being non-gonococcal urethritis, which was found in 13 (22%).

This study confirms previous reports of the high incidence of STDs concomitantly with genital warts.³ It shows that when a man presents with penile warts, whatever his sexual orientation or history, his anus and mouth should be examined to exclude wart infection at these sites at the same time.

We conclude that anal warts do not necessarily point to homosexual experience. In a provincial centre anal warts are more common in heterosexual than homosexual men.

Yours faithfully,
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TABLE Minimum inhibitory concentration (MIC) (mg/l) of 14 antimicrobials against 25 penicillinase producing *Neisseria gonorrhoeae* (PPNG) and 50 non-PPNG isolates from Spain

	Non-PPNG strains		PPNG strains	
	MIC ₅₀	MIC ₉₀	MIC ₅₀	MIC ₉₀
Penicillin	0.025	0.1	3.2	12.8
Ampicillin	0.05	0.2	6.4	12.8
Cefuroxime	0.025	0.025	0.025	0.05
Cefonicid	0.05	0.4	0.05	0.4
Ceftriaxone	0.0125	0.0125	0.0125	0.0125
Erythromycin	0.05	0.2	0.025	0.2
RU-28965	0.1	0.2	0.1	0.8
Rosoxacin	0.025	0.2	0.0125	0.5
Ofloxacin	0.025	0.05	0.025	0.05
Norfloxacin	0.025	0.1	0.025	0.01
Enoxacin	0.05	1.6	0.05	0.04
Ciprofloxacin	0.0125	0.0125	0.0125	0.0125
Spectinomycin	6.4	12.8	3.2	6.4
Tetracycline	0.8	1.6	0.8	1.6