

Diagnostic, treatment, and reporting criteria for non-specific genital infection in sexually transmitted disease clinics in England and Wales

2: Treatment and reporting criteria

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SUMMARY The current methods of treating and reporting non-specific genital infection (NSGI) are described. The most commonly used drug was tetracycline in one or other form. Epidemiological treatment was widely used, particularly for female sexual contacts. There was considerable variation in the reporting criteria for the quarterly returns. The establishment of acceptable and uniform criteria for notification of NSGI is discussed.

Introduction

Part 1 of this paper (Adler, 1978a) was concerned with the current methods of, and criteria for, diagnosis of non-specific genital infection (NSGI) used by consultants in England and Wales. The second part describes treatment and reporting criteria.

Results

TREATMENT FOR NSGI

Curative treatment with antibiotics

Table 1 shows the various types of treatment given to male patients with NSU. In 158 (92%) clinics

Table 1 *Drugs used in the treatment of NSU in male patients*

Drug	Clinics (n=171)		Daily dosage
	No.	%	
Tetracycline or oxytetracycline	92	53.8	0.5 g-2 g
Triple tetracycline (Deteclo)	58	33.9	600 mg-1.2 g
Tetracycline hydrochloride (Tetrabid)	3	1.7	0.5 g
Minoocycline (Minocin)	2	1.2	200 mg
Demeclocycline hydrochloride (Ledermycin)	2	1.2	600 mg
Lymecycline (Tetralysal)	1	0.6	400 mg
Combinations of different drugs	11	6.4	
Not known	2	1.2	

consultants treating male patients used a single-drug regimen. It was rare for a combination of drugs to be used. Tetracycline in one or other form was used in all the clinics in which a single-drug regimen was prescribed. For male patients the most commonly prescribed drugs were oxytetracycline or tetracycline, which were used in 92 (54%) clinics. Oxytetracycline was given by physicians in 65 clinics and tetracycline in 27, the daily dose ranging from 0.5-2.0 g. The next most frequently used preparation was triple tetracycline (Deteclo), the doses ranging from 600 mg-1.2 g per day. The Figure shows the number of days for which oxytetracycline or tetracycline and triple tetracycline were prescribed. The most commonly used daily dosage of oxytetracycline or tetracycline was 1 g per day in either two or four divided doses (76 clinics). The most popular regimen was 1 g daily for five days followed by the same dose for seven days. In some clinics the daily dose of 1 g was prescribed for four days or, at the other extreme for 21 days. In other clinics the daily dosage was higher at 2 g and was prescribed for a period ranging from seven to 14 days. The most frequent daily dosage of triple tetracycline was 600 mg, which was used in 36 clinics. The most common period for which this dose was prescribed was seven days (13 clinics) followed by 21 days (11 clinics). In some clinics a daily dose of 1.2 g was prescribed for a period of five days (seven clinics) or 21 days (one clinic).

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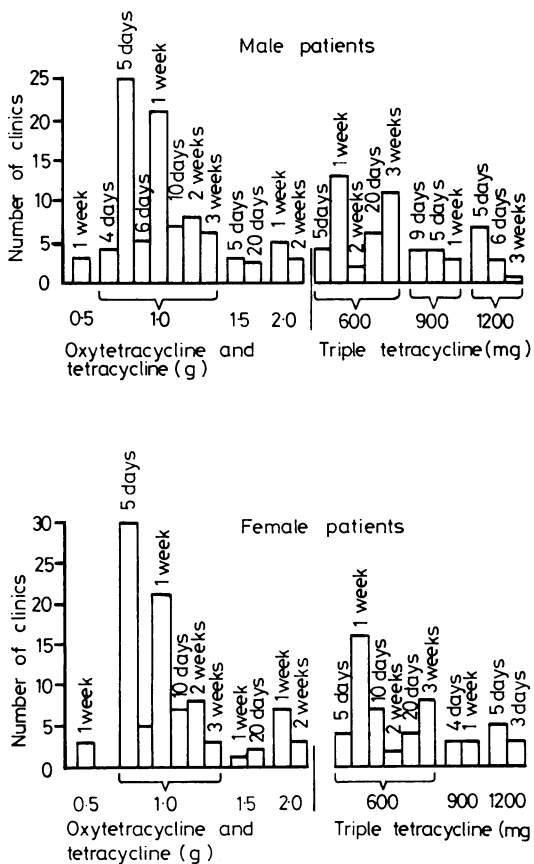


Figure Dosage and number of days for which oxytetracycline and tetracycline and triple tetracycline were prescribed

The treatment prescribed for female patients is shown in Table 2. The treatment, whether given epidemiologically or because the physician recognised NSGI as a distinct entity, was similar and has therefore not been separated. The types of drugs, daily dosage, and period for which they were prescribed were similar to those given to male patients. A single-drug regimen was used in most clinics (89%) and, apart from three clinics which used either co-trimoxazole (two clinics) or ampicillin (one clinic), the drug of choice was tetracycline in one or other form. The most commonly prescribed drugs were tetracycline or oxytetracycline, which were used in 90 (52%) clinics, followed by triple tetracycline in 56 (32%) clinics. The daily dosage for these two drugs was the same as that given to male patients.

Table 2 Drugs used in the treatment of NSGI in female patients

Drug	Clinics (n=173)		Daily dosage
	No.	%	
Tetracycline or oxytetracycline	90	52.0	0.5 g-2 g
Triple tetracycline (Deteclo)	56	32.4	600 mg-1.2 g
Tetracycline hydrochloride (Tetrabid)	3	1.6	0.5 g
Minocycline (Minocin)	2	1.2	200 mg
Co-trimoxazole	2	1.2	2 tablets (twice daily)
Ampicillin	1	0.6	2 g
Combinations of different drugs	4	2.3	
No treatment prescribed	15	8.7	

Empirical/clinical treatment

Treatment was occasionally given to symptomatic patients who were not sexual contacts before the results of smears or cultures for *Neisseria gonorrhoeae*, *Trichomonas vaginalis*, and *Candida albicans* were known. The treatment, therefore, was based on a positive history and clinical findings, the physicians maintaining that they could differentiate between gonorrhoea and NSGI on these criteria. As reported earlier in this paper consultants working in seven male clinics and in six female clinics instituted treatment on this basis. Tetracycline or oxytetracycline were used in all cases, except in one clinic at which male and female patients were treated and where streptomycin plus co-trimoxazole and potassium citrate mixture were prescribed.

Epidemiological treatment

In the present study, epidemiological treatment was defined as that given to named contacts after a history of exposure to infection but without, or in advance of, confirmatory pathological findings. With contacts of NSU, this would imply treatment in the absence of microscopical evidence of infection and in advance of culture results; Table 3 shows the proportion of clinics in which this approach was used for female and passive homosexual patients. Physicians were more inclined to give epidemiological treatment to female patients than homosexuals. In 54% of clinics where such treatment was used it was given to most patients, and in the remaining 46% (61 clinics) it was prescribed for

Table 3 Number of clinics using epidemiological treatment for different types of patient

Type of patient	Clinics	
	No.	%
Female	132	76.3
Passive homosexual	53	31.0

selected patients. The commonest reason for selection in these patients was reinfection or a relapse (Table 4). In 80% of clinics only one of the specified reasons was given for epidemiological treatment of contacts of NSU, in 13% two were given, and in the remaining 7% three or more.

Table 4 *Reasons for selection in the use of epidemiological treatment for contacts of NSU*

Reason	Clinics (n=61)	
	No.	%
Reinfection/relapse of original patient	44	72.1
Possible damage to stable relationship	14	22.9
Patient in transit	8	13.1
Pregnancy	4	6.5
Treatment requested	3	4.9
Fear of possible patient default	2	3.3
Patient institutionalised/language difficulties	2	3.3
Promiscuity/prostitution	1	1.6

An important aspect of epidemiological treatment is the definitive diagnosis for the quarterly returns. Naturally, if the investigations for NSGI are returned as showing positive results the patient is automatically counted as a case of NSGI (this is true of clinics in which smears are not available at the first visit or clinics which perform cultures for *Chlamydia*, *Ureaplasma*, etc.). It was also considered of interest, however, to establish the eventual diagnosis of a patient who had been treated epidemiologically but for whom tests gave negative results. Table 5 shows the diagnostic categories for sexual contacts treated epidemiologically which were used by consultants when the smears gave negative results according to the criteria normally used to establish the diagnosis. In most clinics (60%) in which this approach was used for female or passive homosexual contacts, the diagnosis and subsequent notification of 'non-specific genital infection' (Department of Health and Social

Table 5 *Diagnostic category for contacts treated epidemiologically and in whom smears gave negative results*

Diagnostic category	DHSS code no.	Passive homosexuals		Female patients	
		No.	%	No.	%
Non-specific genital infection	C4	32	60.4	78	59.1
Other conditions					
Requiring treatment	D2	19	35.8	49	37.1
Not requiring treatment	D3	2	3.8	4	3.0
No return		0	0.0	1	0.8
Total		53	100	132	100

Security [DHSS] Code Number C4) was made despite the negative results. The next most frequently used category was 'other conditions requiring treatment' (DHSS Code Number D2).

Alcohol

Most consultants asked patients to refrain from drinking alcohol during treatment; this occurred in 156 (91%) clinics at which male patients were treated and at 123 (71%) clinics where female patients were treated. The reasons for asking patients to abstain from alcohol are shown in Table 6. The commonest reason was that alcohol irritates the urethra and increases the severity of the symptoms. This differed from the reason that alcohol causes a relapse, which was the second most commonly cited reason. In two-thirds of clinics one of the reasons was specified and in the remaining third two of them.

Table 6 *Reasons given for patients being advised to abstain from alcohol during treatment for NSGI*

Reason	Clinics (n=160)	
	No.	%
Irritates the urethra	86	53.7
Causes relapse	38	23.7
Patients should remain sober	35	21.9
Delays drug absorption	23	14.4
Standard practice	21	13.1
Causes pelvic congestion	12	7.5

Follow-up tests after treatment

Consultants treating patients for recognisable NSGI or on epidemiological grounds did not ask all patients to return after treatment (Table 7). No patients were asked to return in three clinics where male heterosexual patients were treated, in 15 where active homosexuals were treated, in 16 where passive homosexuals were treated, and in 29 where female patients were treated. In most clinics patients were seen on two or more occasions for repeat investigations other than serological tests.

Quarterly returns for NSGI

The criteria used by physicians to establish a diagnosis of NSU in male heterosexual and active homosexual patients, of NSGI in female patients, and of non-specific proctitis in passive homosexuals have been described in part 1 of this paper (Adler, 1978a, Tables 1-3).

In all clinics where microscopy was used a return was made for patients with NSU on the basis of this procedure, in which the quantitative and qualitative criteria for the leucocytes were applied

Table 7 Number of visits by patients with NSGI for repeat tests following treatment

No. of visits	Heterosexuals		Active homosexuals		Passive homosexuals		Female patients	
	No.	%	No.	%	No.	%	No.	%
None	3	1.7	15	8.8	16	9.3	29	16.7
1	23	13.5	19	11.1	21	12.3	35	20.2
2	55	32.2	44	25.7	44	25.7	45	26.0
3	54	31.6	54	31.6	52	30.5	24	13.9
>3	36	21.0	29	17.0	28	16.4	20	11.6
Not known or not applicable	—	—	10	5.8	10	5.8	20	11.6
Total	171	100	171	100	171	100	173	100

as previously outlined. A return was made in six of the seven clinics which instituted treatment on clinical evidence alone. Finally, physicians working in 16 of the 17 clinics which used the two-glass urine test to make a diagnosis made a return on the basis of this test.

Consultants working in 103 clinics for female patients recognised, diagnosed, and treated NSGI as a distinct clinical entity on the basis of one or more of four different criteria, which included: positive microscopical findings, clinical examination, history, and positive culture results. Thus physicians could use any one of these criteria alone to make a return to the DHSS. Consultants in 95% of clinics who recognised and treated NSGI in female patients made returns. In contrast, returns were made in only 61 (62%) of the 98 clinics in which non-specific proctitis was recognised as a distinct clinical entity in passive homosexuals when the patient received treatment. The criteria for establishing the diagnosis of non-specific proctitis also varied, and again it was possible for a consultant to make a return on the basis of microscopical evidence, clinical examination, or history alone.

In addition to the returns made for male and female patients on the basis of the established criteria, cases were also classified as NSGI if treated epidemiologically. In 60% of clinics which used this approach and in which no definitive disease had been diagnosed, returns were made as if the patient had NSGI.

Discussion

The variation among physicians in establishing a diagnosis of NSU, NSGI, and non-specific proctitis is inevitably reflected in the quarterly returns to the DHSS. This variation is further complicated by two other factors.

Firstly, even though all the conditions are potentially different entities the standard notification form (SBH 60) does not allow for this distinction. Consultants have to include all categories under the same heading of NSGI and can only divide patients

by sex. This lack of distinction means that a nebulous mixture of cases is included. This is made even worse when the DHSS adds new categories of cases that require notification without provision for their separation. This occurred in 1971 when physicians were required to make returns for the first time for cases of NSGI in women and of non-specific proctitis. Instead of being notified separately, they are all returned as cases of NSGI. This has made it even harder to judge whether the increase in the number of cases of NSGI is real or apparent owing to the addition of new entities that cannot be separated from the general rubric of NSGI.

Secondly, a further problem of notification occurs when a patient is treated epidemiologically without any evidence of disease. At present physicians working in 60% of clinics where such treatment is used for patients without positive findings on microscopy, culture, clinical examination, or history are notifying these as 'true' cases of NSGI. This is contrary to what is believed by the Chief Medical Officer (DHSS, 1970), who stated that all female patients treated for epidemiological reasons should appear under the category 'other conditions requiring treatment' (D2). Because such patients are included as 'true' cases the annual number of notified cases of NSGI contains two types; firstly, those in whom a diagnosis has been made on the basis of a set of diagnostic criteria, however variable; and, secondly, those who are sexual contacts but have no evidence of disease and fulfil no diagnostic criteria. One course of action would be to include all cases treated epidemiologically as 'other conditions requiring treatment' (D2). This may appear tidy but will only make this category even more of a dumping ground than it is already. For instance, most consultants who treat sexual contacts with gonorrhoea on epidemiological grounds use this category (Adler, 1978b). The other option is for all such cases to be returned as 'non-specific genital infection' with a clear indication that they have been treated epidemiologically in the absence of positive

findings. This would necessitate redesigning the SBH 60.

In part 1 of this paper, the question was raised as to whether NSGI in women and non-specific proctitis in homosexuals actually exist as distinct entities. It is probable that the majority of cases of NSGI returned for female patients are in fact those treated epidemiologically and not those patients in whom a primary diagnosis is made. If one accepts that NSGI in women and non-specific proctitis in homosexuals may not exist the most logical approach is to have a separate category for cases treated epidemiologically, and since it is unlikely that physicians see many cases of NSGI in women and proctitis in homosexuals a return could be made for these cases as 'other conditions requiring treatment' (D2).

Virtually all the clinics which treated male and female patients used some form of tetracycline preparation, the most popular ones being oxytetracycline, tetracycline, and triple tetracycline. These drugs accounted for over 80% of all treatment regimens. The most common daily dosage of tetracycline or oxytetracycline was 1 g for five to seven days; however, some physicians prescribed treatment for two to three weeks. This longer period may have been because the patient was *Chlamydia*-positive or because it was considered that a better cure rate could be obtained. The latter possibility has been suggested by John (1971) but since disputed by several authors (Willcox, 1972; Helmy and Fowler, 1975; Grimble and Amarasuriya, 1975). There would appear to be no justification for prescribing tetracycline or oxytetracycline for more than five to seven days unless a clear diagnosis of chlamydial infection has been made.

Triple tetracycline can also be used in the treatment of NSU, and in the present study the most frequently used dosage in clinics was 600 mg a day for five to seven days. Some authors have suggested that triple tetracycline is more effective than oxytetracycline in the treatment of NSU (Bhattacharyya and Morton, 1973), but this is disputed by other workers (Willcox, 1972; Grimble and Amarasuriya, 1975). These conflicting reports indicate that no good scientific evidence exists for the use of triple tetracycline in preference to tetracycline. Furthermore, triple tetracycline is more expensive. The average cost to the health service of a prescription dispensed by a retail pharmacist for a five-day course of oxytetracycline at a dose of 1 g per day is £0.32 compared to £0.63 for a five-day course of triple tetracycline at a dose of 600 mg daily, a cost difference of £0.31 or 97% (Department of Health and Social Security, 1976). Since triple tetracycline is not established as being more

efficacious than oxytetracycline, but substantially more expensive, it is suggested that the latter is the treatment of choice for NSGI.

Conclusions

In the same way that it is important to develop a standard approach to the diagnosis of NSGI it is also essential that this is extended to the notification of such cases. Unless this is done the current figures are of limited use as an indicator of changing trends and can offer no guidance to clinicians as to whether or not they are controlling the disease.

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