CLINICAL PROFILE AND RESPONSE TO CHEMOTHERAPEUTIC AGENTS IN NON-SPECIFIC URETHRITIS

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The epidemiological and clinical profile of 159 patients havings non-specific urethritis is reported. The majority (67.3%) of patients were unmarried and most (70.4%) of them were in the age group of 21-30 years. The incubation period in the majority (69.2%) of patients was 1-4 weeks. Almost all the (98.1%) patients complained of dysuria but urethral discharge was seen only in 48.4% of patients. Out of tetracyclines, doxycycline, erythromycin and cotrimoxazole tried in this study, tetracyclines in the dosage of 2gm/day for 3 weeks was found to give the best (90.5%) cure rate.

Key words : Non-specific urethritis, Clinical features, Therapy, Tetracyclines.

The incidence of non-gonococcal urethritis is increasing all over the world.[1] In a fair number of them, a specific cause like *Trichomonas vaginalis*, *Candida albicans*, *Corynebacterium vaginale* can be found and the remainder, where no specific aetiologic agent can be found are called non-specific urethritis(NSU). The commonest organisms incriminated for NSU are *Chlamydiae*. Studies regarding the clinical profile and management of non-specific urethritis from India are relatively few in number.[2-5] Tetracycline group of drugs have been mainly employed for the treatment of NSU.[6-8] However, erythromycin and co-trimoxazole have also been successfully used by a few workers.[9,10] Various treatment regimes tried with these groups of drugs as reported from other countries differ in their results and these studies are not comparable as the diagnostic criteria and the dosage schedules of different drugs are not similar. Here-in we report the clinical profile of NSU patients and their response to various therapeutic modalities viz tetracycline, doxycycline, erythromycin and co-trimoxazole as seen in our STD clinic.

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Materials and Methods

Patients were studied from 1979-81, for their clinical profile of non-specific urethritis (NSU). The diagnosis of NSU was made when the patient complained of dysuria, the urethral discharge contained clumps or more than 10 polymorphonuclear cells per high power field, and a direct smear examination as well as culture on chocolate agar and modified Thayer Martin medium was negative for *Neisseria gonorrhoeae*. Microscopic examination of the urethral discharge was also done with a saline preparation to exclude *Trichomonas vaginalis* and *Candida albicans*. Gram staining was used for candida, gonococci and *Coryne bacterium vaginale*.

Results

A total of 159 male patients were found to have NSU, of whom 107 (67.3%) were unmarried. Majority (70.4%) of the patients were in the age group of 21-30 years (Table I).

Table I. Age of patients of NSU.

Age group (years)	Males	Percentage
15-20	22	13.8
21-30	112	70.4
31-40	23	14.5
41 and above	2	1.3
	159	100.0

The socio-economic status of the patients as assessed by their income per month showed that almost all the patients belonged to low (monthly income less than Rs. 500) and middle (monthly income between Rs. 500-2000) income groups i.e. 70 (44.0%) and 83 (52.2%) respectively. Only 6 (3.8%) patients belonged to high income group (more than Rs. 2000/- per month).

The source of infection according to the history was : professionals/prostitutes 89(55.9%) cases, call-girls 29(18.2%) cases and friends 22(13.8%) cases. Marital exposure was incriminated in 11(6.9%) cases and casual acquaintances in 8(5%) cases.

One hundred and fifty six (98.1%) patients complained of dysuria. The remaining three patients attended for a check up following a sexual exposure. In eighty two (51.6%) patients, there was no urethral discharge at the time of presentation and in them the diagnosis of NSU was made by an early morning smear after holding the urine for 4-6 hours (Table II). Redness of the external urethral meatus was noted in 23 (14.5%) patients.

Table II. Symptoms and signs of NSU.

Symptoms and signs	Number of patients
Dysuria	156 (98.1%)
Urethral discharge	
Purulent	50 (31.4%)
Muco-purulent	11 (6.9%)
Mucoid	16 (10.1%)
No discharge	82 (51.6%)
	159 (100.0%)

Certain other sexually transmitted diseases found associated in these patients were, herpes genitalis in 4, scabies in 4, venereal warts in 3, epididymo-orchitis in 2 and primary sore in 1. VDRL test was positive in two patients including the one with a primary penile sore.

The incubation period as determined by the time from the period of last sexual exposure to the alleged contact, to the time of developing the first signs and symptoms was found to be 1-4 weeks in majority of the patients (Table III).

Table III. Incubation period of NSU.

Incubation period	Number of patients
1 week	17 (10.7%)
1-2 weeks	61 (38.4%)
2-4 weeks	32 (20.1%)
1-3 months	24 (15.1%)
3-6 months	6 (3.7%)
6 months-1 year	3 (1.8%)
Not known (No history of sexual exposure)	16 (10.0%)
Total	159

Patients of NSU were treated with one of the following regimens : (a) Tetracycline HCl 0.5 gm QID for 2 weeks, (b) tetracycline HCl 0.5 gm QID for 3 weeks, (c) doxycycline HCl 100 mg BD for 3 weeks, (d) erythromycin stearate 500 mg QID for 2 weeks, (e) co-trimoxazole (sulphamethoxazole 400 mg and trimethoprim 80 mg) 2 tablets BD for 2 weeks.

The response to these regimens including their cure rate and relapse rate during the 3 month follow up is shown in table IV.

Table IV. Response of NSU patients to various chemotherapeutic agents.

Drug	Dosage	Duration in weeks	Number of patients			
			Treated	Cured	Followed-up	Relapsed
Tetracycline	500 mg QID	2	77	59 (76.6%)	43	11 (25.6%)
Tetracycline	500 mg QID	3	21	19 (90.5%)	13	2 (15.4%)
Doxycycline	100 mg BD	3	14	13 (92.8%)	11	1 (9.1%)
Erythromycin	500 mg QID	2	5	5 (100.0%)	5	1 (20.0%)
Co-trimoxazole	2 Tablets BD	2	11	7 (83.6%)	5	0 (0.0%)

Comments

The majority (70.4%) of our patients of NSU belonged to the age group of 21-30 years which is similar to the age group of other reports from India. Sukhija[3] found over 76% of their patients between 18-30 years and Nadkarni et al[2] reported over 56% of their patients between 20 and 30 years.

The source of infection in the majority (55.9%) of patients in the present study was professionals / prostitutes. Sukhija[3] reported 61% of their cases to be acquired from professionals/prostitutes. Their patients, however, belonged to the armed forces.

The incubation period was found to be 1-4 weeks in the majority (69.2%) of our patients, which is almost the same as reported by Sukhija.[3]

Most (107) of the patients in our study were unmarried. Mukhija et al[5] did not find any difference in the marital status of their patients. Lamba[4] found that out of 846 cases, 44% were married.

The value of early morning smear examination in unmasking the diagnosis of NSU has been justifiably emphasized.[12] In 82(51.6%) patients in the present study, an early morning smear examination was helpful in diagnosing NSU. Similar observations had been made earlier by Simmons.[13]

Almost all (156) the patients in the present study complained of burning micturition. In about half (51.6%) of the patients the urethral discharge was absent. The others had either mucoid (10.1%), muco-purulent (6.9%) or purulent (31.4%) discharge. Compared to this, Mukhija et al[5] found mucoid discharge in 51%, muco-purulent in 17.7% and purulent discharge in 13.5% of their patients.

Association of other sexually transmitted diseases was infrequent in our patients.

The effect of therapeutic modalities for NSU has changed in recent times. In the earlier series, Nadkarni et al[2] and Sukhija[3] treated their patients with chloramphenicol, streptomycin and sulphonamides. During the last two decades, tetracyclines have emerged as the drug of choice, as in the majority of patients of NSU the aetiological agent is either *Chlamydia trachomatis* or *Ureaplasma urealyticum*. While tetracyclines are considered to be the most effective remedy, there is no agreement as for the preparation, the dose and the duration of treatment.[6-9] Other agents tried and reported to be effective are erythromycin[9] and co-trimoxazole.[10]

We do not intend to attempt to compare the results of our treatment modalities with earlier studies, partly due to lack of establishment of aetiological agent in most of the patients and partly due to such incomparable variables such as the dosage, the duration, follow-up and compliance of the patient and treatment of partner etc.

In the present study, tetracycline hydrochloride in the dosage of 2 gm/day for 2 weeks and 3 weeks gave a cure rate of 76.6% and 90.5% respectively. Also, the relapse rate with tetracycline therapy for 3 weeks was lower compared to 2 weeks therapy (15.4% and 25.6%). Hence, from our present study, it seems that tetracyclines (2 gm a day) for 3 weeks is, perhaps the best form of treatment for NSU.

Doxycycline in the dosage of 100 mg twice a day for 3 weeks gave an excellent cure rate of 92.8% and relapse occurred in only 1 out of 11 patients after 3 months follow up. However, the number of patients was relatively small and we intend to further study its role in NSU. Erythromycin (2 gm/day) for 2 weeks and co-trimoxazole (800 mg sulphamethoxazole and 160 mg trimethoprim twice a day) for 2 weeks was given in those patients only, who did not respond to tetracycline therapy. The number of patients in both the groups is too small to draw any conclusion.

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