

Key words: Chlamydia trachomatis; Urethritis; Sclerosing lymphangitis

"Non-venereal" sclerosing lymphangitis of the penis presents as a firm, cord-like lesion partly encircling the penis in the coronal sulcus. Some patients also show involvement of the dorsal lymphatics (5). Histologically there is inflammation, hypertrophy and sclerosis of the lymphatic vessels (6). The aetiology of the disorder is not known but many possibilities have been proposed, including mechanical trauma (2), virus infections (8), excessive sexual activity (2), and syphilis (7). In previous reports, very little attention seems to have been given to the possibility of a co-existing non-gonococcal urethritis. In one study comprising 7 patients, 2 had gonorrhoea and 2 had urethritis simplex (7). In one recent description the patient was suffering from gonorrhoea (5) but in several papers a search for urethritis was not specifically mentioned (1, 2, 3, 4, 8).

CASE REPORTS

Case 1

The first patient, a 26-year-old man attended the clinic with the complaint of urethritis and a painful swelling of the penis. A chord-like swelling in the sulcus coronarius was found. The diagnosis of urethritis was established when more than 10 polymorphonuclear leukocytes per high-power field were found in urethral smears. Chlamydia trachomatis was isolated. The lymphogranuloma venereum complement-fixing antibody (LGV-CFT) test was positive (titre 480). Gonococcal cultures and serological tests for syphilis were negative. The lesion resolved after treatment with tetracycline 1 g daily for one week. The patient's sexual partner (who was chlamydia-positive) was treated in the same way.

Case 2

A 20-year-old man had a painful swelling of the penis for two weeks. Two months previously he experienced the same problem but at that time the lesion resolved spontaneously. A chord-like painful swelling was found in the sulcus coronarius. The diagnosis of urethritis was based on the finding of more than 10 polymorphonuclear leukocytes per high-power field in the urethral smear. Chlamydia trachomatis was demonstrated. The LGV-CFT was positive (titre 30). Gonococcal cultures and serological tests for syphilis were negative. The lesion resolved after one week of treatment with tetracycline 1 g daily. The patient's sexual partner was chlamydia-positive and was treated similarly.

DISCUSSION

In few of the more than 30 cases previously described, specific mention of urethritis was made

although the lesion was clearly related to dubious sexual exposure (1, 2, 3, 4). It is suggested that in future a search for chlamydial infection will be undertaken in these patients, as it is known that for long periods this micro-organism can be present without overt clinical symptoms (6). It is also well known that concomitant infection with gonococci and chlamydial organisms is rather common. (6).

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Isolation of Chlamydia Trachomatis from the Urethra and from Prostatic Fluid in Men with Signs and Symptoms of Acute Urethritis

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Abstract. *Chlamydia trachomatis* was isolated from the urethra in 71 of 275 men primarily attending the out-patient clinic of the Department of Urology because of symptoms of acute urethritis, and with more than four polymorphonuclear leukocytes in each of at least five fields of the swabbed urethral exudate ($\times 1000$). *C. trachomatis* was isolated from 34 of 48 men below 26 years of age, while only 37 of the 227 men aged 26 years

or older harboured chlamydial infection. *C. trachomatis* was isolated from the prostatic secretion of 26 men with acute urethritis and more than 20 polymorphonuclear leukocytes in 10 or more random fields ($\times 450$) in the stripped prostatic fluid, suggesting a positive correlation between chlamydial infection and sub-acute silent prostatitis. Among 70 men with *C. trachomatis* isolated from the urethra, the organism had disappeared at re-examination within 10 days in 19 (27%). Such a disappearance was found in only one of 26 men (4%) in whom *C. trachomatis* had been isolated not only from the urethra but also from stripped prostatic fluid. Four weeks after two treatment cycles of lymecycline 300 mg twice daily for 7 days with an interval of 10 days, *C. trachomatis* was not isolated in any urethral specimen, nor from the expressed prostatic fluid.

Key words: *Chlamydia trachomatis*; Acute urethritis; Silent prostatitis; Lymecycline treatment

Chlamydia trachomatis is an acknowledged cause of acute non-gonococcal urethritis (NGU) (9). In Sweden, the prevalence of *C. trachomatis* ranges from 26% to 43% among men with NGU, and who are attending clinics for venereal diseases (3, 8). *C. trachomatis* has also been associated with acute epididymitis (1), but no correlation has been demonstrated between *C. trachomatis* and non-acute prostatitis (5). This study was designed to investigate the occurrence of *C. trachomatis* in men seen at the out-patient clinic of a department of urology on suspicion of acute urethritis and to determine whether the organism could be isolated from the prostatic secretion.

PATIENTS AND METHODS

From September 1976 to May 1980, a total of 344 men with symptoms of acute urethritis were examined. Of these, 25 chlamydia-positive males had been referred from an out-patient clinic for venereal diseases. All other patients had primarily consulted the out-patient department or had been referred without verified diagnosis to the department by general practitioners or by physicians from other departments. Men who had received antibiotics within one month before the visit or who had positive culture for *N. gonorrhoeae* and drop-outs were excluded from the study. The final material thus comprised 300 men ranging in age from 17 to 50 years ($M=31$), with 72% aged between 17 and 30 years.

The majority of the patients had had urethral discharge for 7 to 14 days combined with urethral smarting and the feeling that the meatal lips stuck together at the first micturition in the morning, but no true symptoms of acute prostatitis were present.

The patients were told to retain their urine for at least 4 hours before the examination. The prepuce was retracted

Table 1. *Chlamydial infection in 300 men with acute urethritis*

Disease	No. of patients	Mean age (y.)	Range (y.)
<i>Chlamydia</i> -pos.	96	27	17-44
<i>Chlamydia</i> -neg.	204	33	24-50

and the meatus cleaned with a sterile, dry dressing. Specimens for staining with methylene blue and for isolation of *C. trachomatis* were taken with a blunt eurette or a cotton-tipped wooden swab passed 4 cm into the urethra and rotated before withdrawal. With the prepuce retracted and the meatus dry, the patient was asked to empty his bladder. A mid-stream portion of the voided specimen was collected in a sterile cup for culture.

With the patient standing bent forward with the prepuce still retracted and the meatus cleaned, the prostate was gently stripped. When the prostatic fluid appeared in the meatus, specimens were collected for culture and microscopic examination. Twenty or more polymorphonuclear leukocytes (WBC) per high-power field (magnification $\times 450$) (HPF) or the occurrence of clumps of WBC in several fields was recorded as a leukocytic reaction; fewer than 20 WBC/HPF was recorded as a negative reaction. Specimens were sent to the laboratory in 2-SP medium for isolation of *C. trachomatis*. The technique for isolation of *C. trachomatis* has been described earlier (3).

Each patient was re-examined 8-10 days after the first examination with the same technique as at the first examination. No antibiotics or chemotherapy had been given during the interval.

All patients with positive isolation of *C. trachomatis* at the first examination were treated with two cycles of lymecycline 300 mg twice daily for 7 days with an interval of 10 days. Regular female partners were treated or referred for examination and the patients were instructed to use a condom during the observation period. Some 3-4 weeks after cessation of the treatment, the patients were re-examined and specimens for isolation of *C. trachomatis* were taken from the urethra and from the prostatic fluid.

RESULTS

The distribution of the patients according to prevalence of chlamydial infection is shown in Table 1. The mean age of the 25 men with chlamydia-positive NGU who were referred from the Venereal Disease Clinic was 22 years (range 17-24 years). In the group of 275 men primarily attending the out-patient clinic of the Department of Urology, the mean age was 30 years (range 17-50 years) and in the latter group of patients *C. trachomatis* was isolated in specimens from the urethra of 71 men (26%). A predominance of chlamydia-positive samples was

found among men below 26 years of age (Table II), 71% of whom harboured *C. trachomatis* in the urethra. Only 16% (37 subjects) of the men older than 25 years exhibited chlamydia-positive urethral specimens. Altogether, 96 men harboured *C. trachomatis* in the urethra. In all patients, the bacterial culture of the voided mid-stream urine was negative.

After emptying the bladder and thereby reducing the number of contaminating micro-organisms (6), 26 of the chlamydia-positive men showed a positive culture from the expressed prostatic fluid also. All these 26 individuals had more than 20 WBC/HPF in the prostatic fluid. In the second culture, 19 (27%) of 70 patients with primarily positive cultures from the urethra alone proved negative whereas only one of 26 patients (4%) with positive culture from the prostatic fluid in the first culture was negative. The rate of spontaneous disappearance of *C. trachomatis* infection, i.e. without treatment within 10 days, is presented in Table III. Some 3-4 weeks after cessation of the tetracycline treatment, *C. trachomatis* could no longer be isolated and 92% of the patients (88 men) were free from symptoms.

DISCUSSION

Reports on the prevalence of *C. trachomatis* among men suffering from urethritis are usually based on studies of patients visiting clinics for sexually transmitted diseases. In this study, men attending the out-patient clinic of a department of urology on suspicion of urethritis demonstrated an isolation rate of 71% among patients aged 25 years or below. This finding is in accordance with studies from VD clinics. The isolation rate of *C. trachomatis* among patients older than 25 years of age was only 16%.

Table II. Age distribution and occurrence of *C. trachomatis*, in per cent, in 275 men with acute urethritis attending the out-patient clinic of the Department of Urology

Age	No.	<i>C. trachomatis</i> %	
		Positive	Negative
18 years or younger	3	100	0
19-25 years	45	69	31
26-35 years	179	16	84
36 years or older	48	19	81

Table III. *C. trachomatis* isolated from the urethra and from the expressed prostatic fluid (EPS) in 96 men untreated for 8-10 days

	Positive culture from	
	Urethra	EPS and urethra
At first examination	70	26
After 8-10 days	51	25
Spontaneous disappearance of chlamydial infection	19 (27%)	1 (4%)

suggesting another etiology of the NGU in the older men in the majority of cases. Men in the higher age-groups were probably less sexually active and had fewer partners than younger men, and the etiological background to symptoms of acute urethritis in this group might not always be contagion.

The rate of spontaneous healing of NGU has been estimated to be 20-30% (9), and the rate of spontaneous disappearance of *C. trachomatis* within 1 to 2 weeks among men with NGU or postgonococcal urethritis was observed to vary between 15 and 50% (4, 7, 10). In this study, the rate of spontaneous disappearance differed significantly ($p < 0.05$) between 70 patients with chlamydial infection limited to the distal part of the urethra (27%) and men with infection also involving the prostatic fluid (4%). Isolation of *C. trachomatis* from expressed prostatic fluid after the patients had emptied a full bladder and thereby reduced the number of contaminating micro-organisms might indicate that *C. trachomatis* can be located in the posterior urethra and within the prostatic gland. Mårdh and co-workers (5) were unable to verify that *C. trachomatis* is involved in non-acute prostatitis. Our findings, with isolation of *C. trachomatis* in the prostatic fluid from patients with symptoms of acute urethritis but with more than 20 WBC/HPF in expressed prostatic fluid, may, however, indicate a positive correlation between *C. trachomatis* and sub-acute (silent) prostatitis. Further studies on the etiological role of *C. trachomatis* in prostatitis are obviously desirable.

Tetracyclines are recommended for treatment of *C. trachomatis* infection. Opinions differ, however, as to the optimum treatment regimen. Schachter & Dawson (9) recommended treatment for 3 weeks. Bowic (2) was of the opinion that treatment with tetracycline for longer periods than 7 days was not necessary.

After two treatment cycles with lymecycline 300 mg twice daily for 7 days with an interval of 10 days, all cultures proved negative in the present study. After this regimen, 88% of the patients were free from symptoms and only 9 of the 96 men complained of urethral irritation 4 weeks after the treatment. These 9 patients all had more than 20 polymorphonuclear leukocytes/HPF in the prostatic fluid at all examinations, but the last chlamydial cultures were negative in all subjects. The regimen used can therefore be recommended.

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The Treatment of Active Chronic Psoriasis: A Comparison of the Effectiveness of a Preparation Containing 0.1% Dithranol and 17% Urea in a Cream Base and 0.1% Dithranol in Lassar's Past B.P.C.

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Abstract. A randomized, controlled study of 35 patients with active chronic psoriasis has demonstrated that 0.1% dithranol in a 17% urea cream base (Psoradrate 0.1% cream, Eaton Laboratories, U.K.) shows reduction of side effects when compared with 0.1% dithranol in Lassar's paste B.P.C., and is equally effective.

Key words: Dithranol; Dermatological agents; Psoriasis; Urea

The three commonly used topical preparations in the treatment of active chronic psoriasis are corticosteroids, tars and dithranol. They vary in effectiveness from patient to patient and all suffer from disadvantages. Hydrocortisone is ineffective, but the fluorinated steroids act quickly and cleanly in most cases, though they tend to fail in widespread cases (4). The well documented local and systemic side effects of these powerful steroids, including skin atrophy, striae, telangiectasia (10), systemic absorption (10), generalized pustular psoriasis (10), and the tendency to a rebound phenomenon after sudden cessation of therapy (3), militate against long-term use.

A comparison of combined dithranol and 0.1% betamethasone 17-valerate (Betnovate, Glaxo Laboratories Ltd., UK), applied under occlusion, and dithranol alone, showed comparable efficiency, but the relapse rate was strikingly different, being on average 5 weeks for the combination and 28 weeks for dithranol alone (9). Other workers (8) have in a small series of patients found the relapse rate to be slower when using 0.05% clobetasol propionate (Dermovate, Glaxo Laboratories Ltd., UK) compared with dithranol.