RESULTS AND DISCUSSION

Of the 34 patients seeking advice primarily for symptoms from their HPPK, 22 had dermatophyte infections (65%). The corresponding figure for positive dermatophyte cultures from patients with other diagnoses, with a clinical picture requiring the exclusion of dermatophyte infection is 16%. In the area served by our Department, HPPK has a prevalence of 0.3% among school-children 12–16 years of age (5). This figure is considered to be representative for the total population, as the disease starts already in childhood. These 0.3% of the population are the source of 22 (38%) of the 58 cases of tinea of palms and soles seen at our Department in this study. Thus, even taking into consideration the possible difference in inclination to seek dermatological advice, the HPPK patients seem to be more prone to contract dermatophyte infections than are other patients. One obvious explanation for this predisposition is the increased amount of keratin available in HPPK, which creates favourable conditions for dermatophyte growth. Another possibility is that the immunologic defence system does not work satisfactorily in the dead, hyperkeratotic tissue.

Epidermophyton floccosum occurred significantly more often in HPPK lesions than in other types of tinea of palms and soles (Table I). The preference of *T. rubrum* for palms and soles accords with common experience. *Tinea pedis* is considered to be relatively rare in children before puberty. In the HPPK group the youngest patient was 4 years old, as compared with 10 in the non-HPPK *Tinea pedis* group. Six of the patients with HPPK and with a negative result in the dermatophyte cultures had positive cultures for *C. albicans*. The clinical significance of this finding is not clear. This stands in contrast to the situation in the tinea group. The condition of these latter patients regularly improved, at least temporarily, after antimycotic treatment. This fact supports the idea that tinea is the reason for the increased discomfort experienced by these patients.

In our trial with 0.05% retinoic acid contrasted with a placebo cream, no difference could be detected between the two treatments. This is in agreement with (1) but in contrast to (4) and (3). In (4) one patient (whom it was not possible to classify accurately because of an incomplete family history) was treated successfully with 0.3% retinoic acid under occlusion. In (3) 9 patients responded favourably to 0.1% retinoic acid applied topically without occlusion, one to three times a day. This treatment caused irritation to the skin. The 0.05% concentration of retinoic acid used in the present study might thus be too low, at least without occlusion. The total absence of side effects (irritation) supports this assumption. Alternatively, the HPPK treated by us might not be of the same type as the hyperkeratoses which respond to treatment with retinoic acid.

REFERENCES

1. von Beer, P.: Untersuchungen über die Wirkung der Vitamin-A-Säure. Dermatologica *124:* 192, 1962.
2. Bergström, C.: Keratodermia palmaris et plantaris Unna-Thost. Nord Med *78:* 1035, 1967.
3. Günther, S. H.: Vitamin A acid in the treatment of palmoplantar keratoderma. Arch Dermatol *106:* 854, 1972.
4. Heiss, H. B. & Gross, P. R.: Keratosis palmaris et plantaris. Treatment with topically applied vitamin A acid. Arch Dermatol *101:* 100, 1970.
5. Larsson, P.-Å. & Lindén, S.: Prevalence of skin diseases among adolescents 12–16 years of age. Acta Dermatovener (Stockholm) *60:* 415, 1980.
6. Rebell, G. & Taplin, C.: Dermatophytes. Their Recognition and Identification. University of Miami Press, 1978.
7. Rook, A., Wilkinson, D. S. & Ebling, F. J G. (Eds.): Textbook of Dermatology, 3rd ed. Blackwell Scientific Publications, Oxford, 1979.
8. Schumacher, A. & Stüttgen, G.: Vitamin-A-Säure bei Hyperkeratosen, epithelialen Tumoren und Akne. Dtsch Med Wochenschr *96:* 1547, 1971.

Sclerosing Lymphangitis of the Penis: A Possible Chlamydia Aetiology

Johannes K. Kristensen and Jens Scheibel

Departments of Dermatology and Clinical Microbiology, Rigshospital, Copenhagen, Denmark

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Abstract. Two patients are described in whom sclerosing lymphangitis of the penis occurred concurrently with chlamydial urethritis. The possibility of a causal relationship between these two conditions exists. After treatment with tetracyclines the lesions disappeared within 2 weeks.

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. Chalmydia 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).

REFERENCES

1. Baden, H. P., Provand, J. & Tanenbaum, L.: Circular indurated lymphangitis of the penis. Arch Dermatol *112:* 1146, 1976.
2. Fiumara, N. J.: Nonvenereal sclerosing lymphangitis of the penis. Arch Dermatol *111:* 902, 1975.
3. Kandil, E. & Al-Kashlan, I. M.: Non-venereal sclerosing lymphangitis of the penis. Acta Dermatovener (Stockholm) *50:* 309, 1970.
4. Lassus, A., Niemi, K. M., Valle, S. L. & Kiistala: Br J Vener Dis *48:* 545, 1972.
5. Pedersen, T.: Circular indurated lymphangitis of the penis. Ugeskr Læg *141:* 2603, 1979.
6. Scheibel, J., Kristensen, J. K. & Mordhorst, C.-H.: Chlamydia trachomatis infection in gonococcal and non-gonococcal urethritis. Ugeskr Læger *142*: 879, 1980.
7. Stolz, E., Van Kampen, N. J. & Vuzevski, V.: Hautarzt *25:* 231, 1974.
8. Van de Staak, N. J. B. M.: Non-venereal sclerosing lymphangitis of the penis following herpes progenitalis. Br J Dermatol *96:* 679, 1977.

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

Stig Nilsson, Gunnar Johannisson and Erik Lycke

Departments of Urology, Dermatology and Virology, University of Göteborg, Göteborg, Sweden

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Abstract. Chlamydia trachomatis was isolated from the urethra in 71 of 275 men primarily attending the outpatient 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 (×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