

A Case-control Study of Hidradenitis Suppurativa in an STD Population

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The prevalence of hidradenitis suppurativa has been found to be higher among patients attending an STD clinic than in an unselected general population sample. The aetiology of hidradenitis is unknown, but an association with chlamydial infections has been suggested for perineal lesions. Our aim was to describe the history of STD, STD risk factors and possible current STD in patients with hidradenitis. A case-control study comparing patients with hidradenitis (20) and controls (60) was therefore made in patients attending an STD clinic.

Genital HPV infection was found to be more common in patients with hidradenitis ($p=0.036$), but no differences were seen in the history of STD, STD risk behaviour or other current STD between the two groups studied. HPV infection appears to be the only STD which is more common in hidradenitis patients, but the biological significance of this finding is not clear. It is speculated that common predisposing factors may be responsible. We were unable to support the previously postulated association between *Chlamydia trachomatis* infection and hidradenitis.

(Accepted April 22, 1996.)

Acta Derm Venereol (Stockh) 1996; 76: 482–483.

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Hidradenitis suppurativa is a chronic recurrent suppurative skin disease, which often affects the genitofemoral folds. The aetiology of the disease is unknown, but bacteria have traditionally been implied as aetiologic factors. Early histological studies described the presence of bacteria within the lesions, and these histological observations are supported by the clinical finding that antibiotics are sometimes useful in the treatment (1, 2). Routine microbiological examination of the lesions is often sterile, but this could be due to inappropriate culturing techniques (3). One study has suggested that *C. trachomatis* may be of special importance to the development of hidradenitis by triggering flares in conjunction with other risk factors (4). The possible link to STD also coincides with our own previous epidemiological observations of the disease. A higher prevalence of hidradenitis was found among young adults attending an STD clinic than in an unselected sample of the general population (5).

This study was undertaken in order to further investigate the possible relationship between hidradenitis and STD.

MATERIALS AND METHODS

Cases and controls were drawn from consecutive patients attending the STD clinic at the Rudolph Berg Hospital, Copenhagen. We define hidradenitis as recurrent painful suppurative lesions in the axillae or in the groin. Hidradenitis often causes scarring and has most often proven difficult to treat in the experience of the patient. Clinically the disease presents with inflamed suppurating lesions, scarring, chronic sinuses, or non-inflamed fibrotic nodules. Patients who had boils

elsewhere on the skin were not included in the diagnosis, so as to exclude e.g. staphylococcosis. Cases and controls were identified consecutively 1993–95 in a ratio of 3 random controls per case, among the patients seen according to the workschedule of the authors. Only patients presenting themselves for the screening examination were included, i.e. return visits for treatment of e.g. HPV infections were not included.

All patients were questioned about the number of previous visits to an STD clinic, use of oral contraceptives, use of condom or cap, estimated number of sexual partners during the previous 6 months, previous infections with *C. trachomatis*, *Neisseria gonorrhoeae*, or other STD. Furthermore the patients were examined for current STD. The examination involved an inspection of the skin and genitalia, blood tests for syphilis, and the taking of swabs for *C. trachomatis* from urethra and uterine cervix, and swabs for *N. gonorrhoeae* from tonsils, urethra, uterine cervix and rectum. Blood tests and bacteriological swabs were examined using routine methods.

The prevalence of the individual elements of history and examination in the two groups was compared using Fisher's exact test, and odds ratios were calculated. p values of less than 0.05 were considered significant.

RESULTS

A total of 80 patients were examined: 20 cases of hidradenitis and 60 controls. None of the patients indicated having any notion that hidradenitis was a sign of STD. No patients with current gonorrhoea or syphilis were found. The results are shown in Table I. Three patients had both axillary and genitofemoral lesions and 17 had only genitofemoral lesions. Condylomata acuminata on clinical examination were found significantly more often in patients with concomitant hidradenitis than among controls ($p=0.036$, OR = 4.1, 95% confidence interval: 1.2–13.9). Cases and controls did not show significant differences in age or sex ratio, although the sex ratio difference approached statistical significance ($p=0.057$, OR = 6.9; 95% confidence interval: 0.9–55.9) without reaching it. No other elements of history or clinical findings were found to be different in the cases.

DISCUSSION

Hidradenitis suppurativa is most prevalent in younger adults, and the point-prevalence may be higher in an STD population than in the general population sample. Condylomata acuminata were found significantly more often in hidradenitis patients, but the pathogenic significance of this is not clear. Human papilloma virus (HPV) infection is not the STD implied by previous studies, and the clinical presentation of this slow infection appears difficult to compare with the inflamed suppuration of hidradenitis. In addition, the localisation of the two diseases is different. It may be speculated that common predisposing factors are found for both diseases, e.g. maceration or sweating. It can also be speculated that HPV infection of hair follicles causes local anatomical changes, which predis-

Table I. A comparison of STD risk factors, history and findings in patients with hidradenitis and controls from the same STD clinic

Only HPV-infections were found significantly more often in hidradenitis patients than controls. N.s. = not significant.

Parameter	20 Cases	60 Controls
Age in years	27.2 ± 7.4	27.0 ± 6.8
Men	1	16
Previous examinations at STD clinic	1.2 ± 1.4	0.98 ± 1.94
Regular use of oral contraceptives	9	19
Regular use of cap or condom	9	17
No. of partners in previous 6 months	2.1 ± 1.8	3.6 ± 7.1
History of <i>Chlamydia</i> infection	6	13
History of gonorrhoea	3	4
History of other STD	4	15
Current gonorrhoea (proportion)	0/20	0/60
Current <i>Chlamydia</i> (proportion)	1/20	8/60
Current condylomata (proportion)	7/20	5/60

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pose to the development of hidradenitis, as has been suggested in e.g. palmar cysts (6, 7).

A connection between genitofemoral hidradenitis and *C. trachomatis* was found by Brendahan et al. (4). In a series of 7 patients with perineal hidradenitis, *C. trachomatis* was cultured from the urethra of four and the eye of a fifth.

Serological evidence of previous *Chlamydia* infection was found in 6/7 patients, but the organism was not found in the pus of the lesions. The authors concluded that *C. trachomatis* could be an important provoking factor for perineal hidradenitis in conjunction with other risk factors. The results of our study do not support these previous observations, and we found no association between either current or previous *C. trachomatis* infection in our patients.

The association between general risk behaviour for STD and hidradenitis was studied by comparing the number of previous visits to an STD clinic, type of contraception (oral or condom/cap) and estimated number of partners during the previous 6 months, but no differences were found.

Our observations suggest that the relatively increased prevalence of hidradenitis previously described in patients attending our STD clinic is an epiphenomenon rather than due to a causal association, although HPV infection may be a pathogenic or predisposing factor.

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