

Hemophilus ducreyi Infection Resembling Granuloma Inguinale

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A case of *Hemophilus ducreyi* infection clinically resembling granuloma inguinale is reported. Culture of the causative organism permitted a definitive diagnosis to be made. Combined treatment with tetracycline and sulphamethizole/trimethoprim rapidly cleared the infection. *Key words: Chancroid; Diagnosis; Culture.* (Received March 22, 1984.)

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Granuloma inguinale, a chronic ulcerative genital infection caused by *Calymmatobacterium* (*Donovania*) *granulomatis* is seen only on rare occasions in Denmark. Exact epidemiological figures of the disease in Denmark are, however, not obtainable because central registration is not done. In typical cases, granuloma inguinale is characterized by one or several ulcers of the genitals with raised, rolled-over border and a "beefy-red" friable granular surface (1, 2), Table I. The lesions are generally painless and no inguinal lymphadenopathy is detected unless there is secondary infection. In Denmark, chancroid caused by *Hemophilus ducreyi* occurs in a small number of cases each year (6 cases (3) in 1983). Mostly, the patients are infected in tropical regions where the disease is more common. Most cases of chancroid occur as one or several painful ragged ulcers with undermined edges surrounded by mild hyperemia. The base is covered by a purulent exudate, and a painful inguinal lymphadenitis (bubo) is common (1, 2, 4), Table I. The

diagnosis of chancroid must be confirmed by demonstration of *Hemophilus ducreyi* from the lesions because clinical confusion with granuloma inguinale may occur (5, 6). A case of *Hemophilus ducreyi* infection clinically resembling granuloma inguinale is reported herein.

CASE REPORT

A 21-year-old white male was seen at the out-patient clinic for venereal diseases, Rigshospital, Copenhagen, with penile ulcers that had been present for three weeks. Six weeks earlier the patient had sexual intercourse with a prostitute in Bangkok. The lesions were painless and no inguinal lymphadenitis was observed by the patient. On physical examination the patient showed ulcers on the frenulum and adjoining part of the foreskin. The ulcers were slightly tender to palpation. Each ulcer showed varying degrees of rolled-over border and "beefy-red" granular base (Fig. 1). Regional lymphnodes were slightly enlarged and non-tender.

Laboratory study for Syphilis

Darkfield microscopy for *Treponema pallidum* was negative on three consecutive days. Serum tests for *Treponema pallidum* immobilization (TPI) and FTA-ABS came out negative. WR (Wasserman reaction) was negative.

Laboratory study for Lymphogranuloma venereum (LGV)

Serum samples were drawn for complement fixation test on two occasions with an interval of 26 days. Both tests came out negative.

Laboratory study for genital Herpes

Material suitable for culture of herpes virus was not obtainable. Herpes complement fixation test was negative.

Laboratory study for Granuloma inguinale

A punch biopsy was obtained from the border and base of the larger ulcer. The tissue was crushed between two glass slides. Giemsa's stain was applied to the crush preparations which were then examined for cytoplasmic inclusions (Donovan bodies). No Donovan bodies could be demonstrated.

Laboratory study for Chancroid

A cotton swab was touched to the base of the larger ulcer and placed in Stuarts transportation medium. The sample was sent to the Microbiological Department, State Serum Institute of Copenhagen, within a few hours. The cotton swab was rolled over a growth medium suitable for detecting *Hemophilus ducreyi*. Typical colonies of *Hemophilus ducreyi* were identified.

Clinical course

At the initial visit the clinical diagnosis of granuloma inguinale was made and treatment started with tetracycline 500 mg orally four times a day. After three weeks of treatment the size of the lesions was slightly decreased. Positive cultures for *Hemophilus ducreyi* was known at that time and additional treatment with sulphamethizole/trimethoprim (Sulfotrim®) 400 mg/80 mg was given orally four times a day. After two weeks of combined treatment with tetracycline and Sulfotrim® the genital lesions were completely cleared.

Table I. Clinical signs and symptoms in typical chancroid and granuloma inguinale (4)

	Incubation period	Clinical characteristics of genital lesions
Chancroid	1-5 days	Multiple painful ulcers with undermined irregular edges surrounded by mild hyperemia. Ulcer base is covered by purulent exudate. Regional lymph nodes enlarged (bubo)
Granuloma inguinale	8-80 days	Multiple non-tender lesions with vegetative granulation tissue of "beefy-red" appearance and rolled-over cord-like border. Regional lymph nodes not enlarged



Fig. 1. Penile ulcers with varying degrees of rolled-over border and beefy-red granular base.

COMMENT

In the past, the diagnosis of chancroid was made on clinical grounds after exclusion of other causative agents of genital ulcers. In our patient the initial clinical diagnosis was granuloma inguinale, and the definitive diagnosis was made by isolating *Hemophilus ducreyi* on a proper selective culture medium. Giemsa's stain applied to smears of ulcer exudate is often unreliable as diagnostic proof due to contamination with other similar genital bacteria (6, 7). The clinical appearance of the lesions in our patient was similar to those previously reported in patients with granuloma inguinale-like *Hemophilus ducreyi* infection (5, 6). It has not yet been established why *Hemophilus ducreyi* in some cases produces lesions similar to infections due to *Calymmatobacterium (Donovania) granulomatis*. Altered immune response to *Hemophilus ducreyi* has been suggested (6), but in our patient the history did not indicate an abnormal course of other types of infections. Relative resistance to antibiotics has been reported in some cases of normal appearing and granuloma inguinale-like infections of *Hemophilus ducreyi* and may play a role in producing lesions clinically mimicking granuloma inguinale (6, 8). Tetracycline or sulphonamides have been recommended for treatment of chancroid (9), but cases of relative resistance of *Hemophilus ducreyi* to one or both drugs has been reported (6, 8). Tetracycline was given initially to our patient, because granuloma inguinale was suspected (9). Tetracycline had little effect, but combined therapy with sulphamethizole/trimethoprim rapidly cleared the lesions. In resistant cases of chancroid, erythromycin has been reported to be effective (5). The granuloma inguinale-like *Hemophilus ducreyi* infection is probably a clinical variant of chancroid without alteration of causative organism or immunological abnormalities of the host. This variant may have been seen in the past, only not recognized as chancroid because of lack of culture techniques.

This case report illustrates that reliance in the clinical appearance for diagnosis of chancroid is insufficient, and that improved culture techniques now available should rule out diagnostic errors in future.

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