

## Syphilitic Balanitis of Follmann: Three Case Reports

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*Treponema pallidum* has been implicated as a possible cause of balanitis since the reports of Follmann (1). We report here 3 cases of syphilitic balanitis of Follmann.

### CASE REPORTS

#### Case 1

A 20-year-old heterosexual man presented at our sexually transmitted diseases clinic with an erosive balanitis of 3 weeks' duration. He had had unprotected sexual intercourse with a prostitute 5 weeks previously. Examination revealed a diffuse induration of the glans penis with an eroded area (Fig. 1). No chancre was observed. Voluminous tender inguinal lymphadenopathy was present. Dark-field examination (DFE) was negative. Serological testing for syphilis was positive: a fluorescent treponemal antibody-absorbed (FTA-abs) test gave a result of 1:25,600 and a Venereal Disease Research Laboratory (VDRL) test a result of 1:64. A *T. pallidum* haemagglutination (TPHA) test was also positive (3+). Bacterial cultures were positive for *Staphylococcus aureus*. Mycological and herpes simplex virus (HSV) cultures and HIV serology were negative. The patient was treated with 2.4 million units of benzathine-penicillin, administered intramuscularly.

#### Case 2

A 28-year-old heterosexual man presented with a desquamative and crusted balanitis of one week's duration. He had had unprotected sexual intercourse with a

prostitute 5 weeks previously. Examination revealed a diffuse induration of the glans penis and the presence of an adherent crust (Fig. 2). A swelling, 10 cm in diameter caused by bilateral inguinal lymphadenopathy, was present. A puncture of one of the swollen nodes yielded haemorrhagic material. DFE of samples from the glans penis and haemorrhagic material was negative. A search for Ducrey's bacillus by direct examination and culture was negative, as were cultures for aerobic bacteria, anaerobes, *Candida albicans* and HSV. Chlamydial serology and HIV serology were negative. Treponemal serology was positive: the FTA-abs and VDRL tests yielded values of 1:1,600 and 1:8, respectively, and a TPHA test was positive (2+). The patient was treated with penicillin as in Case 1.

#### Case 3

A 34-year-old bisexual man presented with an erosive balanoposthitis of one month's duration. He had had unprotected sexual intercourse with a man 6 weeks previously. He had been treated unsuccessfully by his general practitioner with two different anti-fungal creams. An examination revealed an erosive erythema of the prepuce and glans, which was indurated, and a chancre on the coronal sulcus. Unilateral and tender inguinal lymphadenopathy was present. DFE, bacteriological, mycological and HSV cultures, and HIV serology were all negative. Treponemal serology was positive, with TPHA and VDRL results of 1:2,560 and 1:64, respectively. The patient was treated with penicillin as in Case 1.



Fig. 1. Case 1: eroded syphilitic balanitis.



Fig. 2. Case 2: desquamative and crusted syphilitic balanitis.

## DISCUSSION

Follmann (1) was the first to draw attention to the fact that balanitis may be the only clinical expression of primary syphilis. He reported three cases of primary syphilis presenting as erosive balanitis without a chancre. The diagnosis of syphilis was based on the presence of *T. pallidum* in DFE and a positive Bordet-Wasserman reaction (1).

Despite a recrudescence of syphilis during the last decade due to a relapse into unsafe sex, we have observed only three cases of syphilitic balanitis of Follmann during a period of 19 years. Follmann recorded an incidence of balanitis in cases of primary syphilis of 0.3–0.5% (1). Thus, syphilitic balanitis of Follmann should be considered a very uncommon condition.

One salient clinical feature observed in our cases is the cardboard-like induration of the glans penis. We consider it to be a good criterion for suspecting a diagnosis of syphilitic balanitis of Follmann. However, similar indurations were not described in the cases reported by Follmann (1). The description of Degos of the so-called “*syphilome diffus primaire*” (2), a diffuse induration of the glans penis possibly associated with a chancre, better describes the clinical characteristics of our patients.

A chancre was observed in case 3. In syphilitic balanitis of Follmann, a chancre may be present before, simultaneously with, or after the balanitis (3). However, it can also be absent, as was the case in two of our three patients.

Erosive balanoposthitis was misdiagnosed as candidal balanoposthitis in our third case, which led to a delay in the diagnosis of syphilis. The first case of syphilitic

balanitis reported by Babu et al. (4) was also misdiagnosed as fungal balanoposthitis.

In confirming a diagnosis of syphilitic balanitis of Follmann, it is important to eliminate, by culture, the presence of other pathogens implicated in balanoposthitis (5), especially *C. albicans*, group B streptococci, anaerobes and HSV. In the first case, the presence of *S. aureus* should be considered a secondary infection.

The pathogenesis of syphilitic balanitis of Follmann was clarified by the clinicopathological study of Lejman & Starzycki (3) According to the results of this study, the active penetration of *T. pallidum* through the epidermis has a haematogenous origin.

In conclusion, balanitis can be the sole clinical expression of primary syphilis. Thus, clinicians should suspect a treponemal infection in all cases of balanoposthitis, particularly when the glans penis is indurated and lymphadenopathy is present. Syphilitic serology should be performed systematically in cases of balanoposthitis, as it is the only means of confirming the diagnosis.

## REFERENCES

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