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Penile Nodules in an Individual with Risk Behaviors for Sexually Transmitted Infections

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Case History

A 24-year-old man consulted due to lesions in the genital area that had appeared one month before. Four months prior to this visit he was diagnosed with HIV and secondary syphilis, and began antiretroviral treatment with tenofovir, lamivudine and dolutegravir; he also received 2.400.000 IU of benzathine penicillin IM. He had engaged in unprotected sexual intercourse (UPSI) with men in recent months.

Physical Exam

A 7 mm ulcer with a reddish base was observed in the frenulum, it was hard and slightly painful

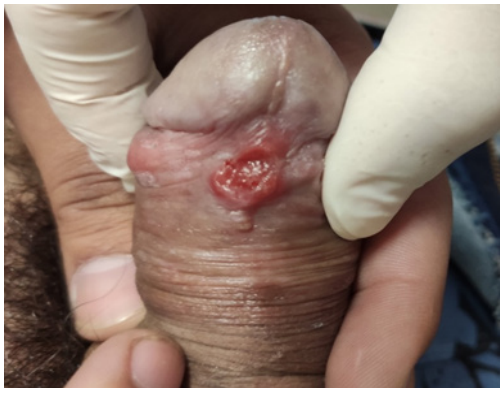

Figure 1A: Ulceration in the frenulum and nodule in the balanoprepucial groove (red arrow).

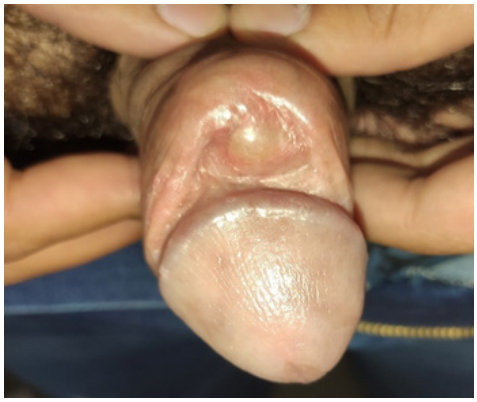

Figure 1B: Larger nodule in the balanoprepucial groove

In the penile shaft and balanoprepucial groove 2 nodules were seen, covered by healthy skin, soft on palpation (Figure 1A, red arrow and Figure 1B) and painful. Penile edema was present. Enlarged lymph nodes in the right groin were slightly painful; the patient was in good general condition.

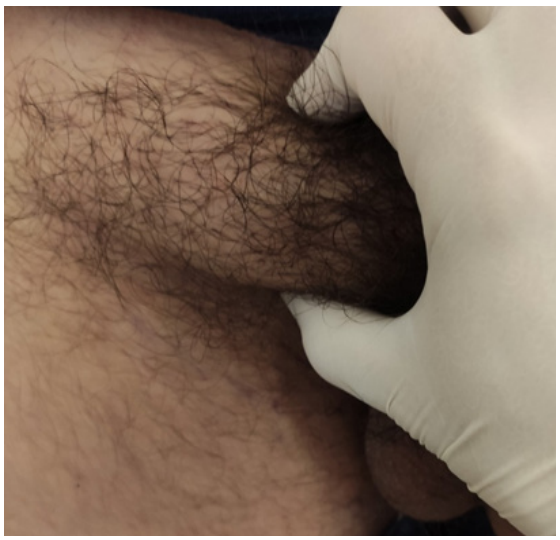

Figure 2: Enlarged right inguinal lymph node, without signs of inflammation.

Ancillary Tests

Treponemal test for syphilis was reactive (chemiluminescence method), VDRL test was reactive up to a dilution of 1:32 (previous value 1:128), and serology for hepatitis B and C was negative. Viral load was 60 copies/ml and T lymphocyte count was CD4+ 539 cells/UL. The remaining results were unremarkable. An ultrasound exam of the right groin showed hyperechogenic nodes, with increased hilar flow and periadenitis, but no abscess. The patient's penile nodules were punctured and drained abundant brownish purulent material. PCR testing of urine, genital ulcer biopsy and groin lymph node was positive for Chlamydia trachomatis serovar L2b. A PCR test of the genital ulcer was negative for Treponema pallidum. Culture of the purulent material was negative for bacteria and mycobacteria. A biopsy of the ulcer borders was performed.

Diagnosis

Lymphogranuloma venereum.

Clinical Course and Treatment

The patient was prescribed doxycycline orally, 100 mg BID for 21 days, with clinical resolution. Sexual partners of the last 2 months were called.

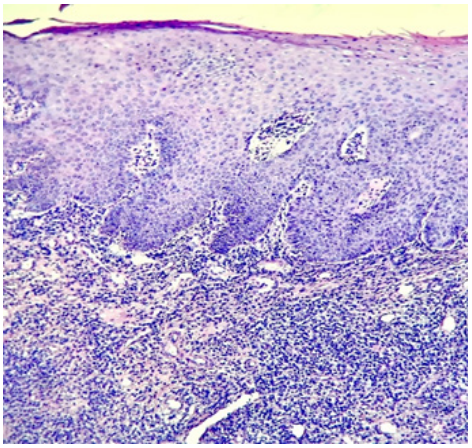

Figure 3A: 40x, H-E: Epithelial hyperplasia, acanthosis and parakeratosis, dense inflammatory infiltrate in chorion.

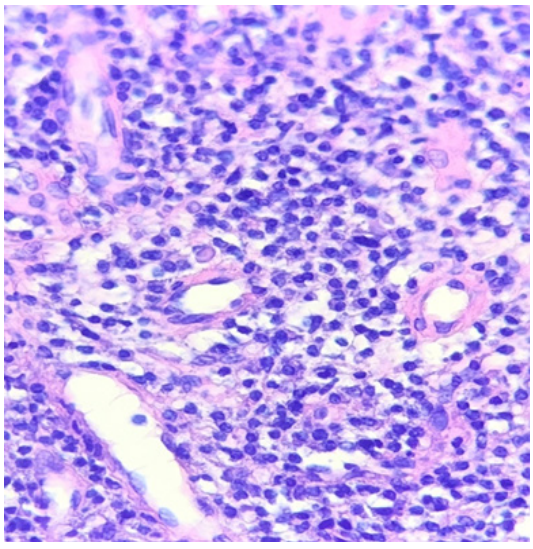

Figure 3B: 200x: the inflammatory infiltrate contains lymphocytes and plasmocytes.

Comment

Lymphogranuloma venereum (LGV) is a sexually transmitted disease (STD) caused by L1, L2 and L3 serovars of Chlamydia trachomatis (CT). The disease is endemic in tropical regions. During the last 20 years, an increase of LGV has occurred in Europe, the United States, Canada and Australia [1,2], as well as in Argentina since 2017 [3,4]. Groups at risk of acquiring the infection are men who have sex with men (MSM), infection due to HIV, other STDs, use of sex toys and fisting [5,6-8]. The incubation period of LGV ranges from 3 to 30 days [5-8]. The course consists of three stages: the first manifests as a papule, pustule or painless and transient ulcer; the second, which is currently the most frequent form, with an inguinal or ano-rectal syndrome, and the tertiary stage with chronic inflammation and lymphedema [1,2,5-10].

A rare clinical presentation of the primary stage is lymphangitis of the penis, with the appearance of one or more tense lymph nodes classically called "buboes" [7-10]. The site of entry of the infection would be the urethral meatus or the prepuce [6]. This clinical manifestation was first described in 1940 by Brandt [11] and thought to be linked to a poor immune status [7-10]. Such manifestation remains extremely rare, with less than 10 cases published in the literature, all in MSM and HIV positive cases. Most patients presented with a solitary lesion, and some with 2 to 3 lesions [7-10]. If untreated, lesions may persist for months and continue to increase in size or become ulcerated and drain their contents spontaneously [8,9]. No lesions equivalent to buboes have been described in women.

Differential diagnoses for penile nodules are syphilis, reactions to fillers, insect stings, cutaneous tuberculosis, spinocellular carcinoma and benign tumors [10].

The diagnosis of LGV is performed with bacteriology samples obtained from mucosal surfaces, and puncture of lymph nodes and nodules. Molecular tests for the diagnosis of CT and subsequent assessment of the serovariety are the methods of choice for the diagnosis of LGV [12,13].

First line treatment consists of doxycycline administered orally, 100 mg BID for 21 days, or oral azithromycin, 1 g per week for 3 weeks as an alternative regimen [12,13]. Aspiration of fluctuating nodules is recommended as an adjuvant treatment [6].

Importantly, coinfection with other STDs should be ruled out. All sexual partners of the last 2 months should be examined and empiric treatment initiated [1].

In conclusion, penile nodules should be taken into account as a manifestation of LGV in subjects at risk of STDs.

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Conflicts of Interest: None.

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