

# Molluscum contagiosum and chronic vulval ulceration as the first manifestations of HIV infection – a case report

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## Abstract

Molluscum contagiosum is a very common, benign, often self-limiting skin disease caused by Molluscum contagiosum virus, member of the poxvirus family. Genital ulcers in HIV positive women are usually acute or subacute, mostly idiopathic or aphtous. Sixty percent of cases are caused by herpes simplex virus syphilis or chancroid. We present a 31-year-old woman with a 2.5 month history of vulval ulceration and a several month history of molluscum contagiosum in the pubic region, neck and face. After she was admitted to our department, the patient underwent physical examination using enzyme-linked immunosorbent assay, and an immunoblot test for HIV 1/2. Both tests were positive. Thereafter, the patient was referred to an infectologist who recommended application of 5% imiquimod cream 3 times per week for molluscum contagiosum and acyclovir 3x400 mg/day. Considering that there are more accepted indications for HIV testing, we agree with other authors that all adults with molluscum contagiosum or chronic genital ulceration should be tested for HIV serology.

## Key words

Molluscum Contagiosum; Molluscum Contagiosum Virus; Vulvitis; HIV Infections; Comorbidity; Diagnosis

Molluscum contagiosum (MC) is a very common, benign, often self-limiting skin disease caused by *Molluscum contagiosum* virus (MCV), member of the pox virus family. The first peak incidence is in pre-school children, and the second occurs in young adults, where the condition is generally considered a sexually transmitted infection. MC is extremely rare in immunosuppressed non-human immunodeficiency virus (HIV)-infected patients. However, in HIV infection, MC is not self-limited, it may be widespread, recurrent, giant, atypical, resistant to therapy, and an important cutaneous marker of disease progression. Genital ulcers are frequently found in HIV positive persons. In a study performed in Nigeria, 19.6% of HIV positive commercial sex workers had genital ulcerations (1). HIV was detected in lesions of almost 50% of HIV-positive men with genital ulcer disease (2). In HIV positive women genital ulcers are usually acute or subacute, mostly idiopathic or aphtous

(60%) caused by herpes simplex virus (HSV), syphilis or chancroid (3).

## Case Report

A 31-year-old woman with a 2.5 month history of vulval ulceration and a several month history of MC in the pubic region, neck and face was admitted to our department. In her personal history, she denied intravenous drug abuse or blood transfusions during lifetime. Previously, MCs were unsuccessfully treated by cryosurgery. Three months before, she had aphtous lesions in the mouth, while three years before, she had undergone surgery for microinvasive cervical carcinoma and pilonidal sinus.

The physical examination revealed an oval, shallow ulceration, with irregular edges on the right labia majora (Figure 1) and several MC on the pubis, neck and face (Figure 2). She was feeling well and the rest of the physical examination was normal.



**Figure 1.** Shallow ulceration with irregular borders on the right labia majora

However, laboratory tests showed the following abnormal values: ESR 95 mm/h, white blood cell count of  $3.64$  and  $3.97 \times 10^9/l$  (n.v.  $4.8-10.8 \times 10^9/l$ ), hemoglobin 96 and 97 g/l (n.v. 120-180), hematocrit 0.29 l/l (n.v. 0.37-0.52), platelets 100 and  $104 \times 10^9/l$  (n.v. 130-400), aspartate-aminotransferase 48 u/l (n.v. 0-38). Total serum IgG concentration was 24.9 g/l (n.v. 7-16), IgA 14.2 g/l (n.v. 0.7-4), IgM 2.67 g/l (n.v. 0.4-2.3). Lactate-dehydrogenase, gamma-glutamyl transferase, alanine aminotransferase, bilirubin, glucose, urea, creatinine, complement components C3 and C4, and antinuclear antibodies were within normal range or negative. *Escherichia coli* 60000/ml was identified by urine culture test. Swab culture taken from the vulval ulcer base *Staphylococcus aureus*. Since Molluscum contagiosum in adulthood is considered



**Figure 2.** Molluscum contagiosum on the lower eyelid

to be a sexually transmitted disease, STD panel was performed. Enzyme-linked immunosorbent assay (ELISA) tests for HSV-1, HSV-2, HBsAg and HCV were negative. Syphilis serology, VDRL and TPHA tests were also negative. ELISA and immunoblot tests were performed, and both tests were positive for HIV 1/2.

Thereafter, the patient was referred to an infectologist, who recommended application of 5% imiquimod cream 3 times per week for MC and acyclovir 3x400 mg/day (3).

## Discussion

MC has a worldwide incidence as high as 8% (4). Up to 18% of patients with HIV infection have symptomatic MC, and the incidence increases to 33%

in patients with CD4<sup>+</sup> cell counts less than 100/ $\mu$ l (4). The diagnosis is based on the clinical presentation and only a small number of cases are confirmed by biopsy. Contrary to this, in patients with advanced HIV disease, MC can present as an opportunistic infection and cause disseminated, giant lesions that are particularly resistant to therapy.

Koopman et al. revealed that MC tends to affect more advanced stage HIV-positive patients and with low CD4<sup>+</sup> levels (5). This study was further supported by Schwartz and Myskowski, who found that HIV-positive patients with low CD4<sup>+</sup> had significantly more MC lesions (6). Disseminated giant MC was also described in a patient with idiopathic CD4<sup>+</sup> lymphocytopenia (7).

Most studies did not find any significant differences in the appearance or location of lesions in immunosuppressed versus healthy patients (8). Furthermore, most of the studies found that clinical presentation of aggressive, disseminated and atypical MC lesions (giant or verrucous) are more common in HIV-positive patients. Laxmisha et al. demonstrated that HIV-positive patients had more extensive disease, with multifocal involvement, and multiple and giant lesions (9). However, in this study, only patients who had suspicious findings other than MC were tested for HIV status. A study performed in Australia found that facial and neck MC lesions were more common than genital lesions (10).

A Pubmed search showed that only one study answered the question whether presence of MC in a patient is associated with severe immunodeficiency. Mahe' et al. (11) tested 305 patients in Mali for HIV, and reported that MC yields a positive predictive value of 47% for HIV seropositivity.

However, this study has limitations: it included only one center, the study sample may not represent general population with dermatoses in Mali, and the authors did not report if HIV status was related to any atypical features of MC.

Many different options have been described in the treatment of MC: destructive, cytotoxic, antiviral and immune-modifying modalities (4, 7, 12, 13). However, there is no standard treatment for MC. Imiquimod has potent antiviral and antiproliferative effects inducing production of a large number of proinflammatory and antiviral cytokines, IFN- $\alpha$ , IL-

12, TNF- $\alpha$  and IFN- $\gamma$ , and chemokines (7). Also, it seems that imiquimod directly induces apoptosis regardless of death-receptors and increases activation and migration of Langerhans cells to the draining lymph nodes (7). Several studies showed good clinical response of MC lesions to treatment with imiquimod, although mainly in immunocompetent patients (14-16).

Chronic vulval ulcerations in HIV-positive patients are rare, while the pathogenesis remains unknown (17). Immunosuppression, altered host response, and direct infection by HIV are proposed etiologies. Gbery et al. analyzed 29 patients with chronic genital ulceration in Ivory Coast and found that herpes was the cause in 19 (65.5%) patients (18). All patients with herpes were HIV-positive and 18 of these patients had stage C3 of HIV infection (18). We think that possible causes of vulval ulceration in our patient include aphthous ulceration or HSV infection.

She previously had aphthous lesions in the mouth, and it is possible that she had similar lesions on the genital region. In our patient, HSV infection was not excluded by performing assays that directly detect HSV in genital specimens such as virus isolation in cell culture or HSV DNA detection, thus antiviral therapy was commenced on clinical suspicion alone (19).

Also, heterosexual mode of HIV transmission was most probable in our patient, since there were no data of intravenous drug abuse or blood transfusions.

In conclusion, considering that there are more accepted indications for HIV testing, we agree with other authors that all adults with MC or chronic genital ulceration should be tested for HIV serology. On the other hand, HIV testing cannot be recommended in pediatric patients, unless other suspicious features are present (8).

## Abbreviations

- MC - Molluscum contagiosum
- MCV Molluscum contagiosum virus
- HIV - Human immunodeficiency virus
- HSV - Herpes simplex virus
- ESR - Erythrocyte sedimentation rate
- n.v. - Normal values
- Ig - Immunoglobulines
- STD - Sexually transmitted disease



ELISA - Enzyme-linked immunosorbent assay  
 HBsAg - Hepatitis B virus s antigen  
 HCV - Hepatitis C virus  
 VDRL - Venereal Disease Research Laboratory  
 TPHA - *Treponema pallidum*  
           haemagglutination assay  
 IFN - Interferon  
 IL - Interleukin  
 TNF - Tumor necrosis factor

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# Molluscum contagiosum i hronične vulvalne ulceracije kao prve manifestacije HIV infekcije – prikaz slučaja

## Sažetak

Uvod: *Molluscum contagiosum* je veoma često, benigno, često samolimitirajuće oboljenje kože koje je izazvano virusom *Molluscum contagiosum*, članom poxvirus porodice. Genitalni ulkusi kod HIV (eng. human immunodeficiency virus) pozitivnih žena najčešće su akutni ili subakutni, uglavnom idiopatski ili uzrokovani aftama (60%). Česti uzroci su i herpes simpleks virus (HSV), sifilis i šankroid.

Prikaz slučaja: Prikazujemo pacijentkinju staru 31.

godinu koja 2,5 meseca pre prijema u našu Kliniku primećuje ulceraciju na vulvi, a nekoliko meseci pre toga prisustvo *molluscum contagiosum* na koži pubisa, vrata i lica. Neposredno posle fizikalnog pregleda urađeni su ELISA i imunoblot testovi na HIV 1/2 i oba testa su bila pozitivna. Posle dobijanja nalaza, pacijentkinja je upućena infektologu s preporukom da nanosi 5% imikvimod krem 3x nedeljno na *molluscum contagiosum* promene i da uzima aciklovir tablete 3x400

mg dnevno.

Zaključak: Imajući u vidu da se indikacije za testiranje na HIV šire, slažemo se sa drugim autorima da je

neophodno testirati na HIV sve odrasle pacijente sa *molluscum contagiosum* ili hroničnom genitalnom ulceracijom.

## Ključne reči

Molluscum contagiosum; Molluscum contagiosum virus; Vulvitis; HIV infekcije; Komorbiditet; Dijagnoza