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## Case report

# Clinical manifestations of primary syphilis in homosexual men

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## ABSTRACT

At the beginning of a new millennium, syphilis incidence has been increasing worldwide, occurring primarily among men who have sex with men (MSM). The clinical features of primary syphilis among MSM is described, a case-note review of the primary syphilis (PS) patients who attended the Institute of Skin and Venereal Diseases. The diagnosis was assessed based upon the clinical features and positive syphilis serology tests. Among 25 patients with early syphilis referred during 2010, PS was diagnosed in a total of 13 cases. In all patients, unprotected oral sex was the only possible route of transmission, and two out of 13 patients had HIV co-infection. Overall, 77% of men presented with atypical penile manifestation. The VDRL test was positive with low titers. The numerous atypical clinical presentations of PS emphasize the importance of continuing education of non-experienced physicians, especially in countries with lower reported incidence of syphilis.

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## Introduction

Syphilis is a bacterial sexually transmitted infection that evolves through several stages. Primary syphilis (PS) is the clinical stage when the infection first becomes clinically apparent on the skin or mucous membranes. The symptoms may vary, but the primary symptom in men is a painless genital sore (syphilitic chancre), frequently followed by non-tender regional lymphadenopathy. Particular forms of chancres might be overlooked by the patient (e.g. anal or rectal forms) and thus remain untreated. Chancres typically appears during the period of three to 12 weeks after infection.

At the beginning of a new millennium, syphilis incidence has been increasing worldwide, occurring primarily among men who have sex with men (MSM).<sup>1–3</sup>

This study aimed to describe the clinical characteristics of primary syphilis among homosexual men who attended the City Institute for Skin and Venereal Diseases in Belgrade in 2010.

## Methods

A case note review of patients referred for evaluation of genital lesions at the City Institute for Skin and Venereal Diseases was performed during 2010. The diagnosis of syphilis was assessed based upon the clinical features and positive syphilis serology tests (venereal disease research laboratory [VDRL] and *Treponema pallidum* haemagglutination assay [TPHA]). Dark field microscopy of primary lesions was technically limited.

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**Fig. 1 – Typical primary chancre of syphilis.**



**Fig. 2 – Atypical presentation of primary syphilis—dozen of ulcers.**

## Results

A total of 25 men were diagnosed with early syphilis at the City Institute for Skin and Venereal Diseases in Belgrade during 2010. Average patient age was 34 years (range 23–55), 22 were homosexual, two were bisexual, and one was heterosexual. This study included only patients presenting with primary syphilis (PS)—13 homosexual men, one presenting overlapping clinical stages as well as syphilitic hepatitis.<sup>4</sup> All patients presented with lesions on the penis followed by non-tender regional lymphadenopathy. However, only three of them presented with typical chancre (Fig. 1). Furthermore, atypical presentations of PS (Fig. 2) were seen in 77% of patients and presented as: multiple chancres, painful ulcers resembling genital herpes, nodular lesion, and lichen planus-like lesions. Each of the PS patients reported unprotected insertive oral sex as the possible route of transmission.

One PS patient was diagnosed with syphilis re-infection, two patients were HIV positive, with one of them receiving antiretroviral therapy. Seven patients were HIV-negative, and four patients declined testing.

Patients were treated with a single dose of benzathine penicillin G, 2.4 million units intramuscularly, except HIV positive patients, who were treated with three consecutive doses at 1-week interval (total 7.2 million units).

## Discussion

During the last two decades, the epidemiology of syphilis in Serbia showed specific variations. During the period of civil war, accompanied with specific socioeconomic conditions between 1991 and 1995, syphilis was mainly imported by Serbian citizens (declared as heterosexual men) employed in former republics of the Soviet Union.<sup>5</sup> In 2001, an outbreak of early syphilis occurred among heterosexual people in an institution for the care of adults with mental disorders.<sup>6</sup> However, this is the first reported outbreak of early syphilis among homosexual men that occurred in the capital of Serbia. According to published data, syphilis outbreaks in homosexual men have been commonly reported in larger cities.<sup>1,2,7,8</sup>

The majority of the patients of this study acquired syphilis infection through unprotected oral sex. They did not identify the oral insertive intercourse as the possible route for acquiring syphilis infection, despite the fact that oral lesions are highly contagious. The increasing popularity of oral sex as a safer-sex practice in the HIV era introduced this type of sexual intercourse as a replacement for higher risk behaviors, especially when considering the MSM population.<sup>9</sup>

The leading cause of genital ulcers in heterosexual men and women in developed countries remains herpes virus infection; however, primary syphilis takes the leadership in genital ulcer etiology among MSM.<sup>10</sup>

In the present study, only three patients with primary syphilis had typical chancre, the majority of them presented with atypical lesions. In the study by DiCarlo and Martin<sup>11</sup> only 31% of males appeared with the classical syphilitic chancre. It is not infrequent that initial presentation occurs with multiple ulcers resembling genital herpes; moreover, a solitary nodular lesion in primary genital syphilis has also been reported.<sup>3</sup> Multiple chancres and other atypical presentations are usually associated with HIV co-infection.<sup>12</sup> Only two out of 13 PS patients reported in this study were tested HIV-positive. Genital ulcers are well known for facilitating HIV transmission.

In almost half of the presented patients (6/13) multiple genital ulcers were observed, possibly due to numerous small penile injuries from teeth during oral sex, as the sites of *T. pallidum* inoculation.

Atypical presentations of PS may cause diagnostic challenge and syphilis might be misdiagnosed considering other common or well known genital ulcer diseases, especially among non-experienced physicians and/or in countries with lower reported incidence of syphilis. The low incidence of syphilis frequently discourages the diagnosis, especially in patients with atypical clinical presentation.

Laboratory serological testing in all patients revealed lower VDRL titers (range 1:2 to 1:16), which has been previously

reported in primary syphilis,<sup>13</sup> and reactive TPHA tests. Serologic test results have limited sensitivity during the early primary stage of syphilis, and nontreponemal tests usually become positive four to five weeks after infection. In the present study, the highest titer was in syphilis repeater (VDRL 1:16), which is in accordance with the results of Fiumara<sup>14</sup> who also reported higher titers of *T. pallidum* antibody during the re-infection. The lack of sensitivity of syphilis serology tests in the primary stage stresses the importance of dark field microscopy, which is, if applicable, highly sensitive, thereby facilitating early diagnosis and intervention.<sup>15</sup>

The lack of proper and early diagnosis of syphilis, apart from the consequences of delayed or inadequate therapy, has great impact on increased risk for HIV transmission.

The complex clinical and serological diagnosis of syphilis and the reported increase in atypical clinical presentations emphasize the importance of continuing the education of non-experienced physicians, especially in countries with lower reported incidence of syphilis.

Finally this study supports the need for educating the sexually active population, especially MSM, about safe sex practices, stressing the fact that unprotected oral sex is related to various sexually transmitted infections, including syphilis and HIV.

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### Conflict of interest

All authors declare to have no conflict of interest.

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