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COMMENTARY

A repeated syphilis infection imported from Thailand in an HIV positive couple of men-who-have-sex-with-men in Czech Republic

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Summary Coinfection by HIV and syphilis has become a growing problem due to the re-appearance of unsafe sexual practices in the era of potent anti-retroviral drugs. We describe a repeated import of syphilis by a couple of men-who-have-sex-with-men from Thailand to Czech Republic likely due to non-adherence of the patients to physician recommendations. Such cases can become foci for dissemination of once locally rare infections and present a danger for the community.

Mutual effects of syphilis and HIV co-infection were recognized early during AIDS pandemics, which prompted CDC to issue specific guidelines for the diagnosis and treatment of HIV positive patients [1]. This relationship has been even called an "epidemiological synergy", while, however, it is recognized that the relationship between these two diseases in men-who-have-sex-with-men (MSM) is complex [2]. Generally, individuals with syphilis have higher chance of contracting HIV, and genital ulcers caused by syphilis increase HIV transmission rate [3]. On the other

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hand contracting syphilis during HIV infection influences both CD4+ T cell counts and viraemia [4,5].

In the year 2011 according to preliminary reports syphilis was diagnosed in 54 HIV positive men and in 2 HIV positive women in Czech Republic (source: SZU, National reference laboratory for syphilis, Prague, Czech Republic). Sexual intercourse is the most common way of transmission and MSM (75% of recently reported infections) is the most frequently exposed population group. Reduced fear of HIV with the notion of available therapy is thwarting prevention progress and reduction in preventive health services in the country may contribute to increased number of reported cases.

A couple of HIV positive MSM patients reported to the Teaching Hospital in Hradec Kralove, Czech Republic after their visit to Thailand for a regular HIV follow-up in December 2008. Patient 1, born 1980, was diagnosed as HIV-1 positive in 2007 and classified as category A1 (asymptomatic carrier) without anti-retroviral treatment. Patient 2, born 1977, was diagnosed as HIV1 positive in 2006 and classified as category A2 due to the repeatedly detected $CD4^+$ T cell counts lower than 499 cells/μl (Table 2). The parameters of white cells and subpopulations of T lymphocytes in both patients did not show any trend or progression during the follow-up period and were "oscillating" around the median value. Leukocyte and lymphocyte counts were within the normal range in the Patient 1 during the entire period of reporting (Table 1). Patient 2, however, showed decreased counts in each of the white cell populations shown (Table 2). The $CD4^+$ T cell counts were below 499/μl during almost the entire period and his $CD8^+$ T cell counts were borderline low. Patient 2 has been treated by following combination of cART daily: emtricitabine 1x200 mg, tenofovir 1 × 245 mg and lopinavir/r 2 × 400/100 mg.

During the regular visit in the hospital for HIV follow-up mentioned above (Dec 2008), Patient 2 tested positive for syphilis (Fig. 1). Subsequent tests for syphilis in his partner (Patient 1) turned out positive and, based on the anamnestic data obtained from both, it was likely, that they were infected during their visit to Thailand.

Dermatological examination detected a macular rash on trunk, clinically typical for macular syphilis (*roseola syphilitica*) and maculopapular lesions on glans penis (not primary syphilis lesions) in patient 2. Patient 1 had been treated by dermatologist since July 2008 for positive superficial fungal infection and presence of genital warts (*Condylomata accuminata*) in perianal region. Both patients were treated by Procain G penicilline 1.5 × 10^6 IU i.m. twice a day for two weeks, with subsequent application of 1.5 × 10^6 IU Pendepone® inj. i.m. (Benzathini benzylpenicllinum 1.2 × 10^6 IU + procain G penciline 0.3 × 10^6 IU) in a single shot. In February 2009, a decrease in VDRL test (Veneral Disease Reference Laboratory) titres (from 1:32 to 1:2 in patient 1, from 1:16 to 1:2 in patient 2) were described in both patients. Serologic test 19S IgM SPHA (Solid Phase Hemadsorption Test), which is indicative of successful treatment, showed a decrease in both patients and reached negativity in February 2009 for patient 1 and in July 2009 for Patient 2. During the upcoming year 2009, patient 2 was diagnosed in November with seborrheic dermatitis with face involvement, a frequent skin disorder in HIV positive patients, and both partners were checked for contact with man with certified diagnosis of gonorrhoea in September. Culture specimens from pharynx and urethra were negative in both patients, but repeated examinations were rejected by both patients. Clinically no symptoms of extragenital rectal gonorrhoea infection (perianal oedema, inflamed anus, itching, swollen mucosa with pus in proctoscope) were present.

In the end of 2009 (December 17), IgG serologic conversion in FTA-ABS test (Fluorescent Treponemal Antibody adsorption) occurred in both patients together with IgM conversion (19S IgM SPHA test) in patient 2. The IgM

Table 1 Immune system parameters — patient 1.

Patient 1	Range	Median
Leukocytes (cells/μl)	5000—9400	6350
Lymphocytes (cells/μl)	2000—3200	2500
$CD3^+$ T cells (cells/μl)	1470—2250	1860
$CD4^+$ T cells (cells/μl)	640—1000	810
$CD8^+$ T cells (cells/μl)	720—1340	995

Table 2 Immune system parameters — patient 2.

Patient 2	Range	Median
Leukocytes (cells/μl)	3400—5500	4300
Lymphocytes (cells/μl)	1200—1800	1450
$CD3^+$ T cells (cells/μl)	720—1220	905
$CD4^+$ T cells (cells/μl)	340—580	420
$CD8^+$ T cells (cells/μl)	310—480	380

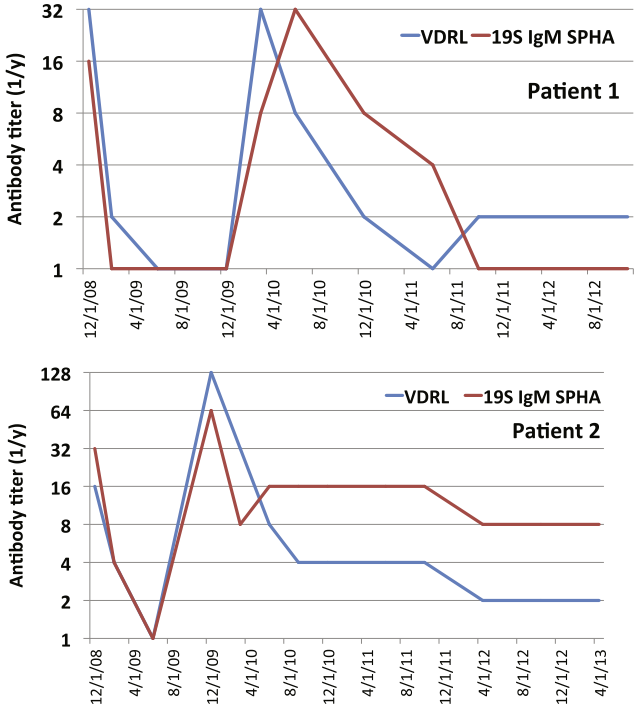

Figure 1 Serological results of both non-treponemal (VDRL) and treponemal (IgM SPHA) tests for patients 1 and 2 during the follow-up period.