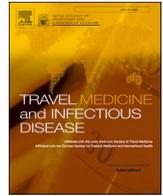




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## Coinfection of syphilis and monkeypox in HIV positive man in Prague, Czech Republic

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Monkeypox is currently spreading rapidly in the USA and Western Europe. In most cases, it has so far been a sexual transmission in men having sex with men (MSM) [1,2]. It is therefore expected that there will be cases of patients who will have other sexually transmitted infections together with monkeypox which may make it difficult to diagnose the disease.

Our case involves a 34 years old HIV positive MSM who developed a painless ulceration on his left tonsil. The patient made a trip in May to Maspalomas, Gran Canaria, Spain five days prior the ulceration appeared where he had unprotected active and passive oral and anal sex with unknown men. Serology examination was positive for VDRL 1:256 positive, TP-PA positive, TPHA positive, FTA-Abs positive, 19S IgM SPHA 1:64 positive. Other sexually transmitted infections such as gonorrhoea, chlamydia or lymphogranuloma venereum were excluded from tonsils, urethra and rectum using NAATs. Therefore treatment of syphilis with cephalosporins was initiated. Three days after the initiation of syphilis therapy the patient developed high fever and chills and observed a painful enlargement of the left inguinal lymph node. The next day a itchy rash on the forehead and perianal painless erosions appeared. It took another two days for the patient to see a doctor. Clinical examination revealed five small papulo-vesicles on the forehead, three red macules with small central pustule on the left side of the body (Fig. 1) and numerous umbilicated papules perianally (Fig. 2), palpable lymph nodes were present in the left inguina, we no longer observed the ulceration on the left tonsil. Because of several days of antibiotic therapy, it was unlikely that these would be new

manifestations of syphilis. At first we thought about the differential diagnosis of drug reaction but due to a typical perianal manifestations and recent cases of monkeypox spread among MSM in Western Europe, we isolated the patient and had laboratory examination for monkeypox performed. The very next day vesicle fluid electron microscopy confirmed the presence of monkeypox virus infection while PCR examination of said material further specified the presence of West African clade which has been shown to cause most of monkeypox cases during current breakout.

Monkeypox virus belongs to the *orthopox* genus of the *Poxviridae* family and branches into West African and Central African clades with reported mortality as high as 1% or 10% respectively in the human host [3]. The virus has been discovered in 1958 and the first human case was reported in 1970. Clinically a monkeypox case is typically reminiscent of smallpox although with an overall much less severe course. Originally described as purely zoonotic, during following decades the virus has shown a potential for interhuman transmission via close contact with lesions, body fluids, respiratory droplets and contaminated materials [4]. Therefore currently dominant interhuman spread in MSM with possible other STI coinfections is a valid cause for better awareness of monkeypox in dermatovenereologic settings as the patient might seek those prior to visiting other specialists. Recently monkeypox is spreading rapidly in Europe, especially due to MSM sex tourism. These patients often have combinations of several STIs. If our patient had all the symptoms prior to the initiation of antibiotic therapy, we would most likely consider them to be concurrent manifestations of syphilis.

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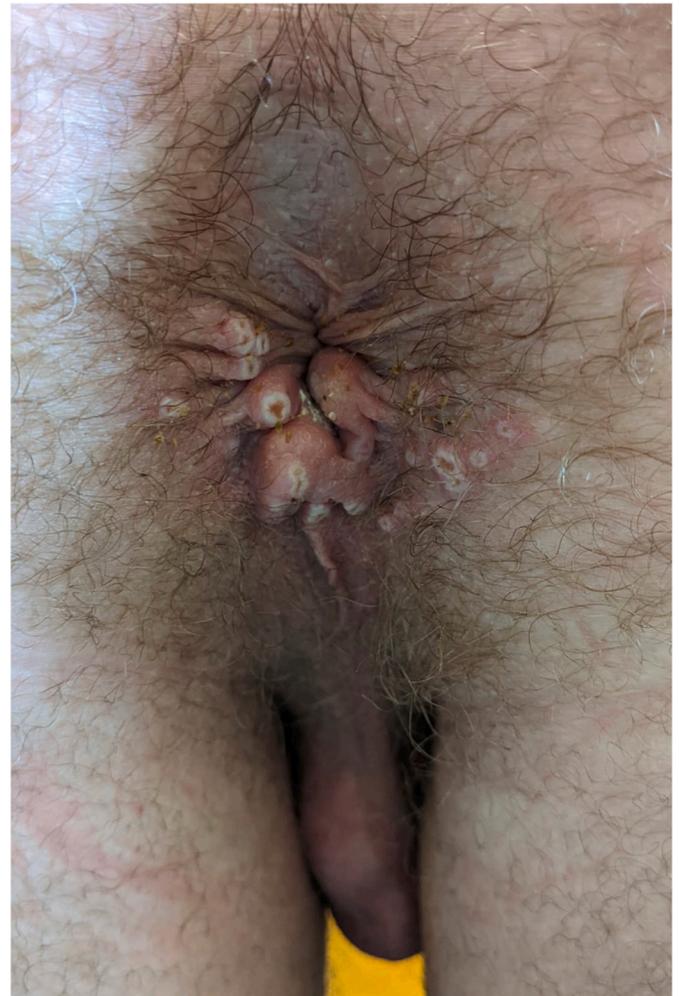


**Fig. 1.** Red macules with small central pustule on the left side of the body.

This would most likely mean that the diagnosis would be significantly delayed or altogether omitted. In the current situation, it is necessary to consider the diagnosis of monkeypox in all MSM patients with typical rash and risky sexual behavior, especially with recent sexual contacts in one of the outbreak sites of the disease. For these cases, it is necessary to ensure accessible, rapid and reliable tests to prevent further spread of the disease.

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**Fig. 2.** Umbilicated papules perianally.

#### References

- [1] World Health Organization. Monkeypox - United Kingdom of Great Britain and Northern Ireland. 2022. 18 May, [www.who.int/emergencies/disease-outbreak-news/item/2022-DON383](http://www.who.int/emergencies/disease-outbreak-news/item/2022-DON383) on 19 May 2022.
- [2] Cohen J. Monkeypox outbreak questions intensify as cases soar. *Science* 2022;376(6596):902-3. <https://doi.org/10.1126/science.add1583>.
- [3] Likos AM, Sammons SA, Olson VA, et al. A tale of two clades: monkeypox viruses. *J Gen Virol* 2005;86(Pt 10):2661-72. <https://doi.org/10.1099/vir.0.81215-0>.
- [4] Breman Joel G, Ruti Kalisa, Steniowski MV, Zanutto E, Gromyko AI, et al. In: Breman JG, Kalisa-Ruti, Steniowski MV, Zanutto E, Gromyko AI, Arita I, editors. *Human monkeypox 1970-1979*. World Health Organization; 1980. <https://apps.who.int/iris/handle/10665/67095>.