

Mpox screening in high-risk populations finds no asymptomatic cases

In their Correspondence, Abdullah Reda and colleagues emphasised the importance of undiagnosed mpox (formally known as monkeypox) cases and called for surveillance with rapid diagnostic or home-based tests.¹ We agree that the threshold for testing or screening at-risk populations should be low at the beginning of an epidemic with a new pathogen, to ascertain the nature and prevalence of atypical presentations.

Since we discovered three asymptomatic mpox cases by retrospectively testing stored samples taken for chlamydia and gonorrhoea testing in May, 2022,² we were interested to assess whether in the following months, more cases occurred among men who have sex with men (MSM) who did not fulfil the WHO case definition of a suspected mpox case. We decided to expand the retrospective testing programme to samples collected in June, 2022, and to offer mpox testing to HIV-positive MSM and HIV-negative MSM using HIV pre-exposure prophylaxis, who attended our sexual health clinic for anorectal chlamydia or gonorrhoea testing or screening from July to September, 2022. Our analysis detected seven previously undiagnosed mpox cases among the samples from 146 MSM in June, and seven additional cases among 181 prospectively screened MSM between July and September (table). Among these 14 mpox cases, five (35.7%) were HIV-positive, the remaining cases used HIV pre-exposure prophylaxis. The median age of participants was 41 years (IQR 38.0–43.0). All mpox cases were from before Aug 25, 2022, and only two fulfilled the WHO definitions of a suspected mpox case or European Centre for Disease Prevention and Control (ECDC) defined probable

mpox case that were in effect at the time. These two people with mpox had subtle macular skin lesions and lymphadenopathy. The WHO and ECDC updated their mpox case definitions on Aug 25, and Sept 3, 2022, respectively, to include cases without skin lesions but with lymphadenopathy, mucosal lesions (including proctitis), or prodromal symptoms after contact with another person with mpox. Among our 12 remaining people with mpox, eight fulfilled these updated case definitions at the time of sampling due to proctitis (n=6) or lymphadenopathy (n=2), and three did so within the next 7 days because they developed typical febrile mpox skin lesions (n=2) or proctitis (n=1). One man did not meet any mpox case definitions as

he only had prodromal symptoms without exposure to another person with mpox.

Screening for mpox among individuals at high-risk, diagnosed 12 cases that did not fulfil the preliminary mpox case definition, of whom three individuals were presymptomatic and one individual only had prodromal symptoms. Our findings underscore the accuracy of the updated mpox case definition and suggest that the prevalence of asymptomatic mpox cases should not be overestimated, as we found no asymptomatic mpox cases.

This research was approved by the Institutional Review Board of the Institute of Tropical Medicine Antwerp, Antwerp, Belgium, on Sept 30, 2022, (ref 1629/22) and the Ethical Committee of the University Hospital Antwerp, Antwerp, Belgium, on Oct 17, 2022 (ref 3863). All authors declare no



Lancet Microbe 2022

Published Online
December 9, 2022
[https://doi.org/10.1016/S2666-5247\(22\)00357-3](https://doi.org/10.1016/S2666-5247(22)00357-3)

	Diagnosis		Overall (n=14)
	Retrospective (n=7)	Prospective (n=7)	
Age, median (IQR)	41 (39.0–42.0)	40 (38.0–47.5)	41 (38.0–43.0)
Sexual behaviour			
Male-to-male sexual intercourse	7 (100%)	7 (100%)	14 (100%)
Multiple or anonymous sex partners in the previous 21 days	7 (100%)	6 (85.7%)	13 (92.9%)
HIV status			
Positive	4 (57.1%)	1 (14.3%)	5 (35.7%)
Negative and on PrEP	3 (42.9%)	6 (85.7%)	9 (64.3%)
Coinfection			
Gonorrhoea	3 (42.9%)	1 (14.3%)	4 (28.6%)
Chlamydia	1 (14.3%)	1 (14.3%)	2 (14.3%)
Mpox symptoms			
Subtle skin lesions and lymphadenopathy	2 (28.6%)	0	2 (14.3%)
Proctitis with or without fever	4 (57.1%)	3 (42.9%)*	7 (50%)*
Lymphadenopathy	1 (14.3%)	1 (14.3%)	2 (14.3%)
Typical monkeypox skin lesions with fever	0	2 (28.6%)†	2 (14.3%)†
Prodromal symptoms only	0	1 (14.3%)	1 (7.1%)
Case definition			
WHO suspected case (May 21, 2022)	2 (28.6%)	2 (28.6%)‡	4 (28.6%)‡
ECDC probable case (before Sept 8, 2022)	2 (28.6%)	2 (28.6%)‡	4 (28.6%)‡
WHO (Aug 25, 2022) and ECDC (Sept 3, 2022) revised definition of suspected case	7 (100%)	6 (85.7%)‡	13 (92.9%)‡
Sample type			
Anorectal swab	3 (42.9%)	4 (57.1%)	7 (50%)
Pooled sample§	4 (57.1%)	3 (42.9%)	7 (50%)
Monkeypox virus-PCR, ct value (IQR)	21 (20.0–23.4)	28 (25.5–30.3)	28 (21.5–27.5)

Data is n/N (%). ct=cycle threshold. ECDC=European Centre for Disease Prevention and Control. PrEP=HIV pre-exposure prophylaxis. §Anorectal swab, oropharyngeal swab, and urine sample. *One man was presymptomatic at the time of sampling. †Two men were presymptomatic at the time of sampling. ‡Three men were presymptomatic at the time of sampling.

Table: Mpox patient characteristics and outcomes

competing interests. CVD, IDB, KV, and MVE contributed equally.

Copyright © 2022 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.

***Christophe Van Dijck,
Irith De Baetselier, Chris Kenyon,
Laurens Liesenborghs, ITM Monkeypox
Study Group, Koen Vercauteren,
Marjan Van Esbroeck
cvandijck@itg.be**

Department of Clinical Sciences, Institute of Tropical Medicine, 2000 Antwerp, Belgium (CVD, IDB, CK, LL, KV, MVE); Laboratory of Medical Microbiology, University of Antwerp, Antwerp, Belgium (CVD); Division of Infectious Diseases and HIV Medicine, University of Cape Town, Cape Town, South Africa (CK)

- 1 Reda A, El-Qushayri AE, Shah J. Asymptomatic monkeypox infection : a call for greater control of infection and transmission. *Lancet Microbe* 2022; published online Oct 6. [https://doi.org/10.1016/S2666-5247\(22\)00259-2](https://doi.org/10.1016/S2666-5247(22)00259-2).
- 2 De Baetselier I, Van Dijck C, Kenyon C, et al. Retrospective detection of asymptomatic monkeypox virus infections among male sexual health clinic attendees in Belgium. *Nat Med* 2022; **28**: 2288–92.