MPOX IN AMSTERDAM: CROSS-SECTIONAL STUDY AMONG MSM AT THE CENTRE FOR SEXUAL HEALTH

911

Matthijs Siegenbeek van Heukelom[1,2*], Vita Jongen[1*], Jason Schouten[1], **Elske Hoornenborg[1,5]**, Sylvia Bruisten[1,5], Brenda Westerhuis[1], Matthijs Welkers[1,3,5], Maria Prins[1,4,5], Maarten Schim van der Loeff[1,4,5], Henry de Vries[1,2,5]

1 Department of Infectious Diseases, Public Health Service Amsterdam; 2 Department of Dermatology, Amsterdam UMC, location University of Amsterdam; 3 Department of Medical Microbiology and Infection Prevention, Amsterdam UMC, location University of Amsterdam; 4 Department of Internal Medicine, Amsterdam UMC, location University of Amsterdam; 5 Amsterdam institute for Infection and Immunity and Amsterdam Public Health research institute, the Netherlands.*Both authors contributed equally and share first authorship

BACKGROUND

In May, 2022 the first cases of mpox (Monkeypox) infection were reported in multiple European countries, predominantly among men having sex with men (MSM). Overlap in symptoms of mpox and other sexually transmitted diseases (STD) made triage for mpox testing challenging.

We aimed to identify characteristics of infection with mpox among MSM to further strengthen case definitions.

METHODS

- Period: 20 May 2022 to 15 September 2022
- Population: MSM attending the Centre for Sexual Health in Amsterdam, the Netherlands and (1) meeting the case definition for mpox or (2) not suspected for mpox (“not tested”)
- Testing: an in-house developed and validated PCR using primers targeting the F3L and G2R G mpox specific genes.
- Statistical analysis: socio-demographic and clinical characteristics, sexual behaviour, and STD diagnoses of MSM positive for mpox, MSM suspected for mpox but tested negative ,and mpox unsuspected MSM.
- Ct values: In mpox positive MSM we compared Cycle threshold (Ct) values of the DNA positive mpox samples as a proxy for viral load by body location**.**

36% of MSM visiting the Amsterdam Center for Sexual Health & meeting the mpox case definition tested positive. Negative mpox tests were more likely in case of a syphilis diagnosis.

RESULTS

- In total, 7,306 MSM were included. 135/374 (36%) of tested MSM were positive for mpox.

Table: Socio-demographic and sexual behaviour characteristics and STI diagnoses of MSM diagnosed with, those tested for and negative, and those unsuspected (and not tested) for mpox

	Mpox positive (n=135)		Mpox negative (n=239)		Not tested (6,932)		Overall
	n[1]	*%*[1]	*n*[1]	*%*[1]	*n*[1]	*%*[1]	*p-value*
Median age, years [IQR]	36	[31-44]	34	[27-42]	34	[28-44]	0.019
Number of sex partners[2], median [IQR]	10	[4-20]	8	[4-15]	6	[3-12]	<0.001
Receptive anal sex without a condom[3]	110	99%	171	92%	4,335	87%	<0.001
Sexualised drug use[3]	93	69%	139	58%	3,884	56%	0.010
Living with HIV	41	30%	39	16%	452	7%	<0.001
HIV negative, no PrEP or unknown	26	19%	75	31%	2,905	42%	
HIV negative and using PrEP[4]	68	50%	125	52%	3,575	52%	
Any bacterial STI at visit	43	32%	81	34%	1,239	18%	<0.001
Chlamydia at visit	22	16%	34	14%	643	9%	0.001
Gonorrhoea at visit	31	23%	49	21%	743	11%	<0.001
Syphilis at visit	0	0%	7	3%	6	0.1%	<0.001

1. Unless stated otherwise; 2.In the six months before current visit; 3. % of individuals reporting at least once in the six months before current visit; 4. PrEP use in the six months before current visit

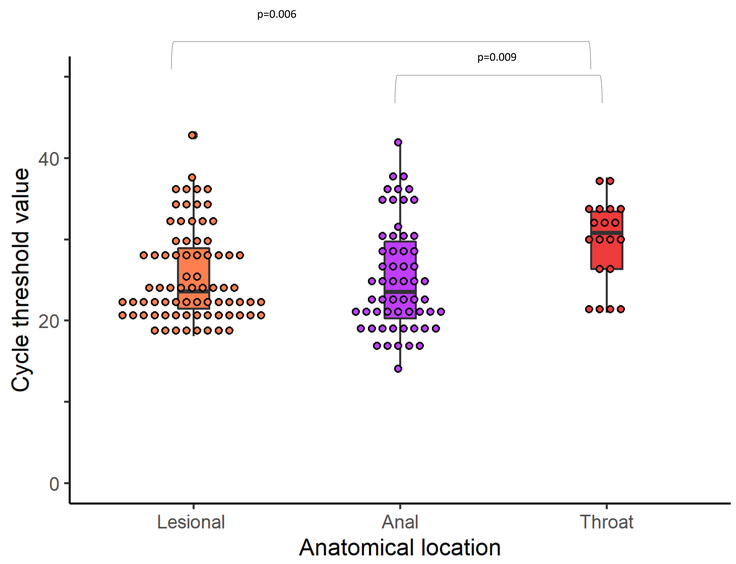

Figure. Median cycle threshold values per sample location of individuals diagnosed with mpox

CONCLUSIONS

- Mpox infection among MSM visiting a Centre for Sexual Health was associated with older age, sexual behavior, and living with HIV
- Among MSM with mpox and not living with HIV, use of HIV pre-exposure prophylaxis was common.
- Chlamydia and gonorrhoea co-infections were common among MSM with mpox
- Syphilis infection was found more often in MSM who tested negative for mpox.
- The Ct value outcomes provide further support for the finding that in the current mpox outbreak, sexual contact is the main transmission route.

Relevance

By February 2023, the number of new mpox positive persons has dramatically decreased globally. Yet, according to the most likely scenarios, it is considered likely that mpox is still circulating. Centres for Sexual Health will continue to play an important role in the identification and management of mpox patients. Awareness creation and education of MSM at high risk for mpox infection, as well as offering prophylactic vaccination, will help to prevent infection and reduce transmission.