

Monkeypox In Pennsylvania During The Multinational Outbreak: A Case Series

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BACKGROUND

- A multi-national outbreak of monkeypox is ongoing since May 2022 in non-endemic countries.
- The first case was described in Pennsylvania on June 2. As of October 11, 796 cases have been reported in the state.
- The clinical characteristics during this international outbreak differ from those of endemic monkeypox.
- We describe three cases at our center through August 2022, and compare them with the published cohorts.
- All cases were confirmed by the locally-developed Monkeypox PCR assay (MP-PCR).
- Per protocol, HSV 1 & 2 and VZV PCR were concurrently tested on the lesions.
- Cases were identified retrospectively and followed up telephonically at four weeks. Verbal consent was obtained.



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	CASE 1	CASE 2	CASE 3
Date of presentation	Early July 2022	Late July 2022	Early August 2022
Age, Sex, Race	29, Male, White	29, Male, White	31, Male, White
HIV status	<ul style="list-style-type: none"> HIV on ART CD4 count 739 cells/mm³/33%. HIV VL 14,552 copies/ml 	Unknown	<ul style="list-style-type: none"> HIV on ART CD4 count unknown HIV VL undetectable
Sexual history	Not elicited	Sexually active with men	Sexually active with men, receptive anal
Travel history	None	None	Not elicited
Presumed event where transmission occurred	Close contact with an asymptomatic male who later tested positive for monkeypox	Unclear	Unclear
Days of illness on presentation	2	7	4
Clinical features on presentation	<ul style="list-style-type: none"> Maculopapular and pustular rash on the back Bilateral tender cervical and inguinal lymphadenopathy 	<ul style="list-style-type: none"> Low-grade fevers Inguinal lymphadenopathy Painful vesicular rash on the penis 	<ul style="list-style-type: none"> Rectal pain, swelling Pustular lesions on the penis and anus Proctitis and perirectal lymph node enlargement
Site of positive MP-PCR sample	Back	Penis	Penis and anus
HSV 1 & 2 and VZV PCRs	Negative	Negative	Negative
Testing for other STIs	None	Chlamydia, gonorrhea urine PCR probes negative	Syphilis serology positive
Course after discharge from the emergency room	<ul style="list-style-type: none"> Rectal pain on day 4 of illness; resolved by day 11 Back pustules crusted during week 3 Painful lymphadenopathy persisted at week 4 	<ul style="list-style-type: none"> Received empiric valacyclovir for 10 days for presumed HSV Lesions crusted within 7 days 	<ul style="list-style-type: none"> Prescribed syphilis treatment with doxycycline for 21 days Could not be reached for follow-up

HSV: Herpes Simplex Virus; PCR: Polymerase Chain Reaction; VZV: Varicella Zoster Virus; HIV: Human Immunodeficiency Virus; ART: Antiretroviral Treatment; VL: Viral Load; STI: Sexually Transmitted Infection

DISCUSSION

- The largest series during the current outbreak (Thornhill, 2022) reported that 98% of infected persons identified themselves as gay or bisexual men, of which 41% were living with HIV.
- In our series, 2/3 patients identified themselves as gay, two were living with HIV, and one patient did not wish to discuss his sexual history.
- No patient reported recent travel, suggesting local transmission.
- In 2/3 cases, the rash was on the genitalia, prompting STI testing, and yielding one diagnosis of syphilis.
- Proctitis would have been an indication for Tecovirimat. Tecovirimat was not available at the time when our patients presented.
- Despite no monkeypox-specific treatment, the patients were progressing favorably at four weeks.

CONCLUSIONS

- In three patients presenting in the early months of the 2022 epidemic in Pittsburgh, PA, the clinical characteristics reproduced those reported in a large international cohort.
- Our findings highlight the importance of obtaining a sexual history and actively looking for concurrent STIs.

REFERENCES:

- Thornhill, John P., et al. "Monkeypox virus infection in humans across 16 countries—April–June 2022." *New England Journal of Medicine* 387.8 (2022): 679-691.
Del Rio, Carlos, and Preeti N. Malani. "Update on the monkeypox outbreak." *JAMA* 328.10 (2022): 921-922.