Demographic and Clinical Characteristics of Mpox within a New York Health System

Christopher A Vo, Rustin Zomorodi, Richard Silvera, Logan Bartram, Amarilis Lugo, Erna Kojic, Antonio Urbina, Judith Aberg, Keith Sigel, Rachel Chasan, and Gopi Patel.
Icahn School of Medicine at Mount Sinai, Division of Infectious Diseases, Department of Medicine New York, New York

Introduction

- Mpox is responsible for a recent global outbreak with over 80,000 cases of infection to date, which has disproportionately affected gay and bisexual individuals.
- Mpox can cause serious illness, including painful mucosal lesions, superinfections, and ocular disease.
- Data on the efficacy of therapy with tecovirimat for mpox is limited.
- We describe the clinical characteristics and course of individuals diagnosed with mpox in a large New York City (NYC) health system who were prescribed tecovirimat.

Methods

- This is a retrospective study describing the clinical features of persons with mpox and the clinical outcomes amongst those who received tecovirimat per CDC eIND protocol (typical duration of 14-days).
- Data was obtained via chart review of patients prescribed tecovirimat in the Mount Sinai Health System in NYC during 7/1/2022 - 10/1/2022.
- Demographics, medical history, clinical and laboratory characteristics and outcomes were collected at baseline and post treatment.

Table 1. Demographic and Clinical Characteristics of the Persons with Mpox

Characteristic — no. (%)	All persons (N=129)
Median age (years)	37 (20-58)
Sex or gender	
Male	123 (95)
Female	1 (1)
Non-binary	3 (2)
Transgender female	1 (1)
Unknown	1 (1)
Sexual orientation	
Gay and/or MSM	120 (93)
Heterosexual	1 (1)
Bi-sexual	3 (2)
Other or unknown	5 (4)
Ethnicity	
Hispanic or Latino	32 (25)
Not Hispanic or Latino	87 (67)
Unknown or not reported	10 (8)
Race	
White	62 (49)
Black	45 (35)
Asian	9 (7)
Other or unknown	12 (9)
Pre-exposure prophylaxis for HIV prevention	40/50 (80)
People with HIV	79/129 (61)

Table 1. General demographics of cohort by sex or gender, sexual orientation, ethnicity, and race.

Results

Top Presenting Symptoms

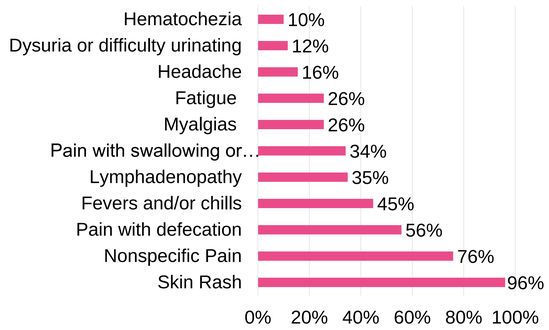

Figure 1. Top presenting Symptoms within cohort.

Lesions by Anatomical Location

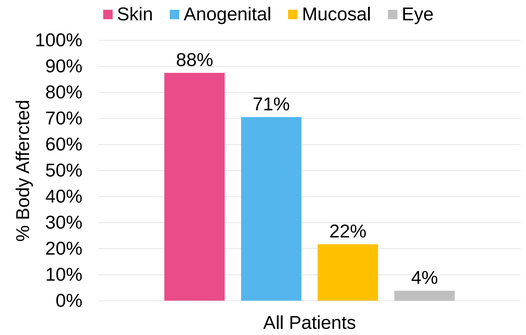

Figure 2. Lesion involvement by anatomical location. Locations of lesions likely related to initial area of inoculation.

Clinical Characteristics of People With HIV

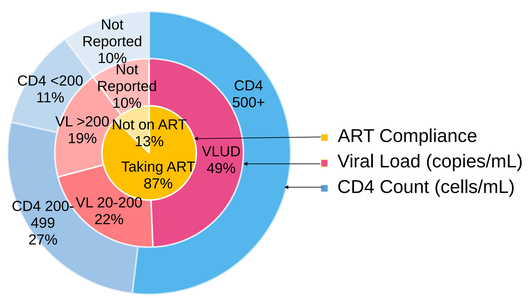

Figure 3. Clinical characteristics of patients with HIV by ART adherence, viral load, and CD4 count.

Clinical Outcomes For Patients with HIV

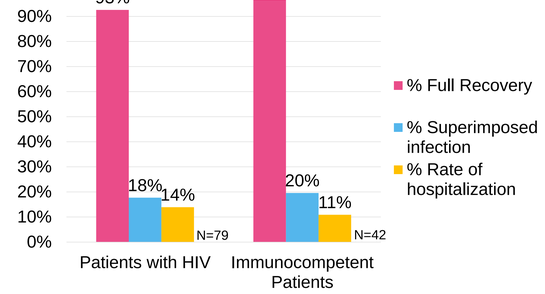

Figure 4. Selected clinical outcomes and complications of patients with HIV compared to immunocompetent patients (patients without HIV or other immunomodulatory conditions).

Table 2. Demographics, clinical characteristics, outcomes, and complications of hospitalized patients (n=16)

Patient	Age (yrs)	Gender	ICU	HIV	Severe immunocompromising condition	Superimposed infection related to mpox	Clinical resolution***
1	40	Male	No	Yes	Solid Organ Tx	Peritonsillar abscess	Yes
2	35	Male	Yes	Yes	No	Cellulitis	Yes
3	37	Male	No	Yes	No	Tonsillitis	Yes
4	35	Male	No	Yes	Multicentric Castleman's	Penile cellulitis	Not reported
5	43	Male	No	Yes	No	None	Not reported
6	51	Male	No	Yes	No	None	Not reported
7	38	Male	No	No	No	Proctitis	Not reported
8	36	Male	No	Yes	HIV/AIDS (CD4 <200 cells/mL)	None	Yes
9	36	Male	No	Yes	HIV/AIDS (CD4 <200 cells/mL)	Perforated diverticulitis; Tonsilitis	Not reported
10	51	Male	No	No	No	Penile cellulitis	Yes
11	25	Male	No	Yes	No	None	Yes
12	33	Male	No	No	No	Periorbital cellulitis	Not reported
13	37	Male	No	No	No	Penile cellulitis	Not reported
14	35	Male	No	No	No	None	Yes (Did not take tecovirimat^^^)
15	24	Male	No	Yes	IBD on immunosuppressants	None	Yes
16	38	Male	No	Yes	No	None	Not reported
Total [No. – (%)]	**37 (med)**	**16 (100)**	**1 (6)**	**11 (69)**	**5 (31)**	**9 (57)**	**8/8 (100)**

Table 2. Demographics, clinical characteristics, outcomes, and complications of hospitalized patients. This subgroup was characterized by a higher degree of severe immunocompromise and superimposed infections, but ultimately achieved similar rates of improvement and resolution. ***Full clinical resolution of mpox disease was assessed at post-treatment assessment, but some degree of improvement is assumed given discharge. ^^^This patient did not start tecovirimat.

Results Cont.

Table 3. Additional Clinical Characteristics and Tecovirimat Outcomes of Entire Cohort

Characteristic — no. (%)	All persons (N=129)
Medical setting of presentation	
Outpatient	113 (88)
Inpatient	16 (12)
Laboratory confirmation of mpox	119 (92)
Completed or documented clinical outcomes	85*** (66)
Drug formulation (oral vs IV)	84/85 (99)
Completed 14-days of therapy	81/85 (95)
Early discontinuation of therapy	4/85 (5)
Serious adverse events	0.00
Clinical resolution achieved	82/85 (96)
Lesions or pain first started to improve on treatment day # — day (median)	3
Lesions and pain fully resolved on treatment day # — day (median)	10

Table 3. Additional clinical characteristics and tecovirimat outcomes of entire cohort. 129 patients were prescribed tecovirimat, but only 85 patients had clinical outcomes documented (***4 patients did not start therapy). 96% reported resolution of illness.

Conclusions

- Mpox disproportionally affects gay individuals and MSM.
- Nearly all patients eventually demonstrated recovery.
- The majority of mpox-related hospitalizations occurred in patients with underlying immunocompromising conditions, with most hospitalized patients having HIV and a third determined to have severe immunocompromise.
- The hospitalized cohort experienced higher rates of superimposed infections in comparison to those managed outpatient.
- Tecovirimat was well tolerated and was associated with minimal side effects, but conclusions regarding its efficacy remain limited, and will require further studies and randomized comparison.

Acknowledgements

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