Early Tecovirimat Treatment for Mpox Disease Among People With HIV: A Matched Cohort Analysis

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BACKGROUND

Despite a lack of effectiveness data in humans, tecovirimat was prescribed to people with HIV (PWH) with mpox during the 2022 mpox epidemic.

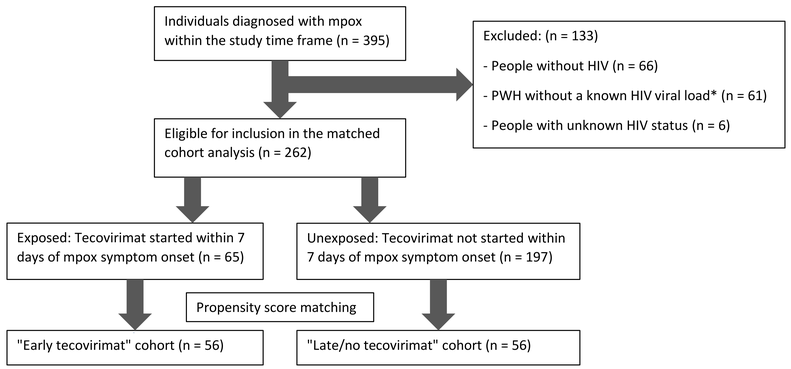


Figure 1: Flowchart of Matched Cohort Analysis:

*Individuals were excluded if there was no HIV viral load within 6 months before mpox diagnosis to 1 month after diagnosis.

METHODS

Retrospective cohort population: PWH diagnosed with mpox at four hospitals in Atlanta, Georgia between 6/1/2022 and 10/7/2022.

Groups: **A**. Individuals treated with tecovirimat within 7 days of symptom onset (early tecovirimat cohort) **B**. Individuals who received tecovirimat more than 7 days after symptom onset or did not receive tecovirimat (late/no tecovirimat cohort).

Multivariable logistic regression models: Identified variables were associated with (a) being prescribed tecovirimat or (b) progression of mpox disease. Individuals were matched 1:1 using propensity scores based on the identified variables to form the 2 cohorts.

Outcome: Rate of mpox disease progression was compared between the matched cohorts.

Disease Progression: Development of at least one severe mpox criterion (as per CDC definition) after symptom day 7.

PWH with **mpox** prescribed **tecovirimat** within 7 days of symptom onset were **less likely to have mpox progression** than matched PWH who didn't receive early tecovirimat.

Table 1: Matched Cohorts: Covariates and Outcome

Baseline characteristics, median (IQR) or N (%)	Early Tecovirimat: (n = 56)	Late/No Tecovirimat: (n = 56)	p-value[a]
Demographics:			
Age (years)	35 (30-42)	36 (32-43)	0.60
Race			
• Black	46 (82.1%)	49 (87.5%)	0.60
• Other[b]	10 (17.9%)	7 (12.5%)	
HIV Indices:			
HIV viral load (cells/mL)			
• < 200	33 (58.9%)	34 (58.9%)	> 0.99
• ≥ 200	23 (41.1%)	22 (41.1%)	
Symptoms and Clinical Course:			
Number of mucosal sites involved at presentation:			
• None	21 (37.5%)	22 (39.3%)	> 0.99
• ≥ 1 site	35 (62.5%)	34 (60.7%)	
Hospitalized at symptom day 7			
• Yes	15 (26.8%)	15 (26.8%)	> 0.99
Exposure to Tecovirimat:			
Received tecovirimat (total)	56 (100%)	20 (35.7%)	
Received tecovirimat on/ before symptom day 7	56 (100%)	0 (0%)	
If treated; median days of symptoms prior to tecovirimat	4 (3-6)	10 (9-15)	
Primary Outcome:			
Development of severe mpox after symptom day 7	3 (5.4%)	15 (26.8%)	0.002

[a]P-values were calculated using a Mann-Whitney *U* test for continuous variables, a Fisher's Exact test for categorical variables, and an exact binomial proportion-based McNemar's test for the primary outcome.

[b]Other race includes American Indian or Alaskan Native, Asian, Native Hawaiian or Other Pacific Islander, White, and individuals for which race was unknown.

RESULTS

112 PWH were included in the analysis; 56 in early tecovirimat cohort) and 56 in late/ no tecovirimat cohort). 54 (96.4%) individuals in both cohorts were cisgender men. Matched variables included: age, race, HIV virologic suppression, involvement of any mucosal site(s), and hospitalization at day 7. (Table 1)

CONCLUSIONS

In the absence of randomized controlled trials evaluating tecovirimat efficacy for mpox, these results support starting tecovirimat in all PWH as soon as a mpox diagnosis is suspected, especially in those with non-suppressed HIV viremia, mucosal site involvement, or additional risk factors for development of severe mpox disease.

ADDITIONAL INFORMATION

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This presentation is presented in memoriam of Dr. Albert M. Anderson