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HIV-Mpox: Severity, Immunosuppression, Integrated Care

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Introduction

A thorough systematic review and meta-analysis recently delved into the characteristics of Mpox in people with HIV. This significant work uncovered that individuals living with HIV, particularly those experiencing advanced immunosuppression, are more prone to severe Mpox disease and exhibit higher rates of hospitalization. These findings clearly underscore the vital importance of ongoing vigilance and the development of specifically tailored management strategies to address the unique needs of this vulnerable patient population [1].

Complementing this, a rapid review synthesized existing knowledge regarding Mpox and HIV coinfection. This review provided comprehensive details on clinical features, disease outcomes, and crucial epidemiological considerations. A key takeaway was that while Mpox typically manifests similarly in people whether they have HIV or not, severe presentations are markedly more common in those whose HIV infection is uncontrolled. This observation necessitates focused surveillance efforts and the creation of specific clinical guidance for this group [2].

The influence of HIV infection on the immune response to the MVA-BN vaccine for Mpox was the subject of another systematic review. The research indicated that while the vaccine generally elicits a protective immune response in people living with HIV, those who suffer from advanced immunosuppression might experience a blunted or less robust reaction. This particular insight highlights a potential need for adjusted or intensified vaccination strategies for these individuals to ensure adequate protection [3].

Furthermore, a dedicated review explored the neurological complications observed in patients coinfected with both Mpox and HIV. This investigation identified a range of central and peripheral nervous system manifestations, noting that these complications are often more severe in individuals with advanced HIV. The review stressed the critical importance of considering neurological involvement in coinfected patients to facilitate timely diagnosis and effective management, which can significantly impact patient outcomes [4].

Addressing therapeutic options, a systematic review assessed the efficacy of tecovirimat, an antiviral medication, for treating Mpox among people with HIV. The findings suggested that tecovirimat is generally well-tolerated and appears to offer benefits, especially for severe cases or those with compromised immunity due to HIV. Despite these promising indications, the review highlighted the ongoing need for more robust data, ideally from randomized controlled trials, to definitively establish its effectiveness [5].

Practical clinical insights emerged from a multicenter case series conducted in Spain, which provided valuable information on the clinical course and outcomes of Mpox in people living with HIV. This series emphasized that individuals with severe immunosuppression stemming from HIV face a greater risk of complicated Mpox presentations. Such cases often demand more intensive management, reinforcing the paramount importance of achieving and maintaining optimal HIV control to mitigate severe Mpox outcomes [6].

On a broader scale, the global epidemiology of Mpox in people with HIV was meticulously explored in another systematic review and meta-analysis. This extensive work revealed a significant overlap between the two epidemics, indicating a higher prevalence of HIV among reported Mpox cases. The review suggested that HIV infection likely influences disease severity and stressed the urgent need for integrated public health responses to manage this dual challenge effectively [7].

A specific study provided detailed descriptions of the clinical features and outcomes of Mpox in people with HIV, with a notable focus on Immune Reconstitution Inflammatory Syndrome (IRIS). The study pointed out that while most Mpox cases in this population are mild, severe presentations and IRIS remain significant concerns for those with advanced HIV. This calls for careful and coordinated management of antiretroviral therapy alongside Mpox treatment strategies [8].

Further insights into Mpox severity and treatment responses in people with HIV were gained from a systematic review specifically evaluating antiviral therapies. It concluded that while the majority of people with well-controlled HIV experience mild Mpox, those with advanced immunosuppression frequently encounter more severe disease and demonstrably benefit from antiviral agents such as tecovirimat. This confirms the compelling argument for personalized care approaches based on individual HIV status and immune function [9].

Finally, during the 2022 outbreak, a study investigated the clinical outcomes of Mpox in people with HIV, decisively highlighting the crucial role of CD4 count in determining disease severity. This research confirmed that individuals with lower CD4 counts, indicative of advanced HIV, face a considerably increased risk for more severe Mpox manifestations. This includes prolonged illness and significantly higher rates of hospitalization, solidifying the importance of immune status in prognostication [10].

Description

The intersection of Mpox and HIV infection presents a substantial clinical challenge, with a body of research consistently highlighting the exacerbated disease severity observed in people living with HIV. Across numerous systematic reviews, meta-analyses, and detailed case series, a clear and consistent finding emerges: individuals with HIV, particularly those grappling with advanced immunosuppression, tend to experience significantly more severe Mpox disease and confront notably higher rates of hospitalization [1, 2, 6, 9]. This heightened vulnerability is a

critical concern for clinicians and public health officials alike.

This severity is powerfully underscored by studies that directly link lower CD4 cell counts—a critical indicator of advanced HIV—to an increased risk for more severe Mpox manifestations. These severe outcomes can include prolonged illness durations and considerably higher requirements for hospital care, as observed during the 2022 outbreak [10]. The resounding implication from these findings is unambiguous: achieving and maintaining optimal HIV control is not merely beneficial but is absolutely paramount in effectively mitigating the most adverse outcomes associated with Mpox coinfection [6].

Beyond the general severity of the disease, specific complications and intricate immunological considerations warrant focused attention. For instance, neurological complications represent a notable concern in coinfected individuals, frequently presenting with greater intensity and severity in those already experiencing advanced HIV. This situation mandates a heightened level of awareness among healthcare clinicians, urging them to proactively consider potential central and peripheral nervous system involvement for prompt diagnosis and the implementation of appropriate, effective management strategies [4]. Furthermore, the effectiveness of preventative measures, such as the immune response to the MVA-BN vaccine developed for Mpox, can be significantly impacted by HIV status. While this vaccine generally elicits a protective immune response in people living with HIV, individuals with advanced immunosuppression may unfortunately exhibit a blunted or less robust immune reaction. This specific observation strongly suggests a critical need for potentially adjusted or intensified vaccination strategies for these individuals, to ensure they receive adequate and durable protection against Mpox [3].

The therapeutic landscape for managing Mpox in the complex context of HIV is also rapidly evolving and receiving significant research focus. Systematic reviews have diligently assessed the efficacy of various antiviral treatments, with particular emphasis on tecovirimat. The accumulated evidence suggests that tecovirimat is broadly well-tolerated and appears to offer substantial clinical benefits, especially in severe cases of Mpox or among individuals whose immunity is significantly compromised due to HIV [5, 9]. However, the current body of scientific evidence concurrently emphasizes an ongoing and critical need for more robust data, ideally derived from well-designed randomized controlled trials. Such trials are essential to solidify these promising preliminary findings and to establish clearer, evidence-based treatment guidelines for this specific patient population. Moreover, the comprehensive management of coinfected patients necessitates a very careful and nuanced balance, particularly concerning the concurrent administration of antiretroviral therapy and Mpox treatment, given the recognized potential for Immune Reconstitution Inflammatory Syndrome (IRIS) to occur in those with advanced HIV [8]. While the majority of Mpox cases in this population may be mild, the occurrence of severe presentations and IRIS remain significant clinical concerns that require vigilant monitoring and proactive intervention [8].

From an epidemiological vantage point, analyses have consistently revealed a substantial and worrying overlap between the global Mpox and HIV epidemics. Studies have definitively identified a higher prevalence of HIV among reported Mpox cases, strongly suggesting a complex and bidirectional interplay where HIV infection can influence not only the severity of the disease but also its broader transmission dynamics [7]. This established epidemiological link profoundly underscores the importance of developing and implementing integrated public health responses that are designed to consider both infections holistically. Such comprehensive approaches would undoubtedly facilitate superior surveillance mechanisms, more effective prevention strategies, and more targeted treatment protocols. This represents a crucial shift away from fragmented, siloed responses, towards a unified strategy capable of effectively addressing the unique and multifaceted challenges presented by this prevalent coinfection [2, 7]. Collectively, the current research landscape strongly advocates for highly personalized care approaches, recognizing and adapting to the diverse clinical presentations and varied immunological statuses within the HIV-positive population when managing Mpox [9].

Conclusion

Research on Mpox in people with HIV consistently shows a more severe disease course for those living with HIV, particularly individuals with advanced immunosuppression. Studies indicate higher hospitalization rates and a greater likelihood of complicated Mpox presentations in this vulnerable population. The crucial role of CD4 count is evident, with lower counts directly correlating to increased severity, prolonged illness, and higher rates of hospital admission.

While Mpox generally presents similarly in individuals with and without HIV, severe manifestations are more frequent in those with uncontrolled HIV. Neurological complications are also a notable concern, often more pronounced in advanced HIV, necessitating specific diagnostic and management strategies. The efficacy of the MVA-BN vaccine for Mpox, while generally protective, may be blunted in people with advanced immunosuppression, suggesting a need for adjusted vaccination approaches.

Regarding treatment, antivirals like tecovirimat appear beneficial, especially for severe cases or those with compromised immunity, though more robust clinical trial data is still needed. Immune Reconstitution Inflammatory Syndrome (IRIS) is another important consideration in advanced HIV, requiring careful management of antiretroviral therapy alongside Mpox treatment. The global epidemiology reveals a significant overlap between Mpox and HIV epidemics, highlighting the need for integrated public health responses and personalized care strategies to address the complex interplay of these infections. Optimizing HIV control is consistently reinforced as a key factor in mitigating severe Mpox outcomes.

Acknowledgement

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Conflict of Interest

None.

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