

Short Communication

Navigating skin complications post-Mpox vaccination in immunocompromised individuals

Dear Editor,

The incidence of infectious diseases, including COVID-19, HIV/AIDS, and MPX (formerly known as monkeypox), and/or their combinations, has continued to increase over the past decade.¹ Recently, during 2022, MPX disease has shown significant mortality and morbidity. The efforts of governments and relevant health authorities to implement vaccinations remain the cornerstone of initiatives and mainstays to improve public health status.² The development of several MPX vaccines worldwide suggests that vulnerable and at-risk groups should make efforts to protect themselves to avoid disease complications. Vulnerable individuals, especially those with impaired immune systems, are prioritized for vaccination, such as those infected with HIV/AIDS; vulnerable groups who claim to be Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, Pansexual, Two-Spirited, and Asexual (LGBTQQIP2SA); individuals who have been infected with MPX; individuals undergoing immunosuppressive therapy; organ transplant recipients and individuals living with autoimmunity. This was done to suppress the increase in infectious disease epidemics globally, nationally, and subnationally.³ For these individuals, the immune system's ability to mount a robust response to vaccination may be compromised, potentially increasing susceptibility to infection and altering the response to vaccine-related adverse events. Among these advancements, it is important to recognize and address potential complications, especially for individuals with compromised

immune systems, in various clinical fields, including dermatology.⁴

One concerning aspect that has received attention in recent discussions is the occurrence of skin problems after MPX vaccination in people with a weakened immune system. Although skin reactions are common in the general population after vaccination, the severity and persistence of these reactions may be more severe in individuals with a weakened immune system. This finding implies the need for further studies. In some cases, individuals taking antiretrovirals (ARVs) are concerned about the impact of MPX vaccination.⁵ Recent reports have highlighted instances of allergic skin reactions among patients with HIV following MPX vaccination. These reactions were attributed to ARV drug contamination, underscoring the importance of awareness-raising and tailored interventions to ensure the safety and efficacy of vaccination in individuals with compromised immune systems.^{5,6} Although the main purpose of the vaccine is to confer immunity against MPX, some recipients may experience dermatologic complications ranging from mild to severe manifestations.

Common skin problems observed postvaccination in individuals with compromised immune systems include a) delayed hypersensitivity reactions characterized by redness, swelling, and pain at the injection site. Although these reactions are generally mild and temporary, individuals with a weakened immune system may experience prolonged or worsening symptoms due to a weakened

immune response; b) eczema dermatitis, in which some individuals experience eczema rashes characterized by red, itchy and inflamed skin. In addition, eczema flare-ups characterized by preexisting atopic dermatitis may exacerbate the condition after MPX vaccination. The inflammatory response triggered by the vaccine leads to increased itching, redness, and recurrence of eczema lesions, requiring careful management and monitoring by a healthcare provider; c) vesiculobullous lesions may occur in rare cases, and vaccination may result in the formation of vesicles or blisters on the skin, indicating a more severe inflammatory response. Immunocompromised individuals have a greater risk of developing vesiculobullous lesions, and cutaneous viral reactivation inadvertently triggers the reactivation of latent viral infections resulting from MPX vaccination, such as herpes simplex virus (HSV) or varicella-zoster virus (VZV), especially in individuals with compromised immune systems. This may manifest as outbreaks of herpes labialis (cold sores) or shingles requiring antiviral therapy and further dermatologic evaluation. e) Other skin infections may occur in individuals receiving MPX vaccination. This condition is characterized by a generalized rash or erythematous eruption after MPX vaccination, which may be indicative of systemic immune dysregulation or hypersensitivity reactions in body tissues. Complications of bacterial, fungal, viral, and/or other microorganism infections of the skin may arise from vaccination, which requires careful monitoring and appropriate antimicrobial therapy.⁷⁻⁹

Given the complexity of managing skin complications in immunocompromised individuals following MPX vaccination, a multifaceted approach is essential. Improved proactive management and surveillance of skin complications in immunocompromised individuals after MPX vaccination need to be

addressed and detected early to minimize adverse events. Healthcare providers should prioritize thorough prevaccination assessments to identify individuals at high risk of adverse reactions; report postvaccination problems, symptoms, and manifestations; and collaborate closely with dermatologists and immunologists to optimize patient care.¹⁰ In addition, personalized vaccination strategies, including modified dosing schedules or alternative vaccine formulations, may be required to minimize risks while maximizing the benefits for individuals with compromised immune systems.⁸

Strengthening education and awareness initiatives targeting healthcare professionals and immunocompromised individuals is critical for ensuring timely recognition and management of vaccine-related skin problems. Accurate information on potential postvaccination skin complications, guidance on self-monitoring of skin reactivity and precautions should be provided to immunocompromised individuals when seeking medical attention. Encouraging open communication and collaboration between patients and healthcare providers will promote a proactive approach to addressing vaccine-related dermatological concerns.

In conclusion, although MPX vaccination has made significant progress in disease prevention, it is important to recognize and address potential skin complications, especially in immunocompromised individuals. By applying a proactive and patient-centered approach, healthcare providers can mitigate risks, optimize outcomes, and ensure equitable access to vaccination for all individuals, regardless of their immune status. Together, we can overcome these challenges and continue to move toward a healthier and more resilient future for everyone, especially ensuring the safety and well-being of vulnerable populations in the delivery of mass vaccinations to prevent infectious diseases.

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