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Case Report

The Brief Case: Monkeypox Disseminated Cutaneous Lesions in an AIDS Patient

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Abstract

A 43-year-old African-American man with HIV/AIDS who received irregular HARRT treatment was diagnosed with disseminated monkeypox. When the patient was presented to our hospital after three months of his diagnosis, monkeypox had caused gigantic verrucous skin lesions throughout the body as the HIV infection was not controlled. The patient was admitted for treatment and was discharged after 4 months. His large dermal lesions are almost healed now after 8 months of treatment.

Keywords: Monkeypox; AIDS; Skin lesions; Bacterial Infections; HAART Therapy

Case Presentation

A 43-year-old African-American man with HIV/AIDS who received irregular HARRT treatment was diagnosed with disseminated monkeypox three months before his presentation to our hospital. He received intermittent therapy and was presented with generalized fatigue, diffuse lymphadenopathy, and worsening of the extensive painful gigantic verrucous skin lesions (Figure 1). At the time of presentation to our hospital, he had a low-grade fever, and mild altered mental status and his CD4 count was 135 cells/uL (reference range: 431 – 1623 cells/uL). His cutaneous exanthema which started about 15 days prior to this presentation had evolved into disseminated lesions with large dark-crusted top up to 6 cm, some with an erythematous base and secondary bacterial infections (Figure 2). CT of chest showed multiple indeterminate solid pulmonary nodules. Brain CT showed juxtcortical white matter hypodensities, which were considered nonspecific as they may be related to sequela from prior opportunistic infection and/or PMI.

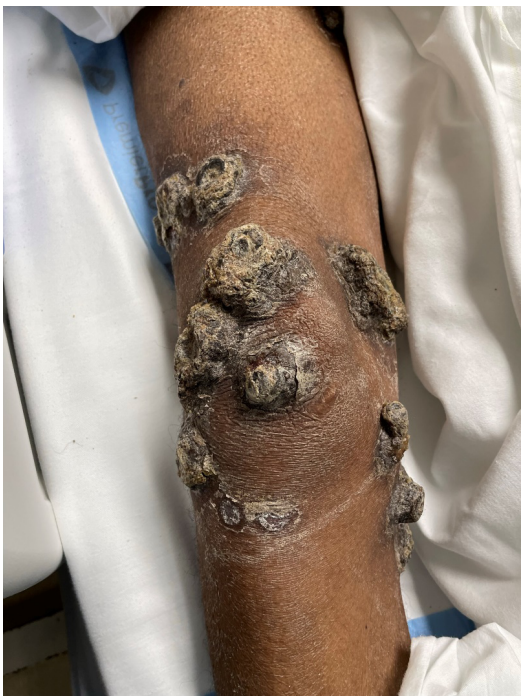

Figure 1: An example of extensive involvement of the patient's skin with large and thick verrucous lesions (elbow).

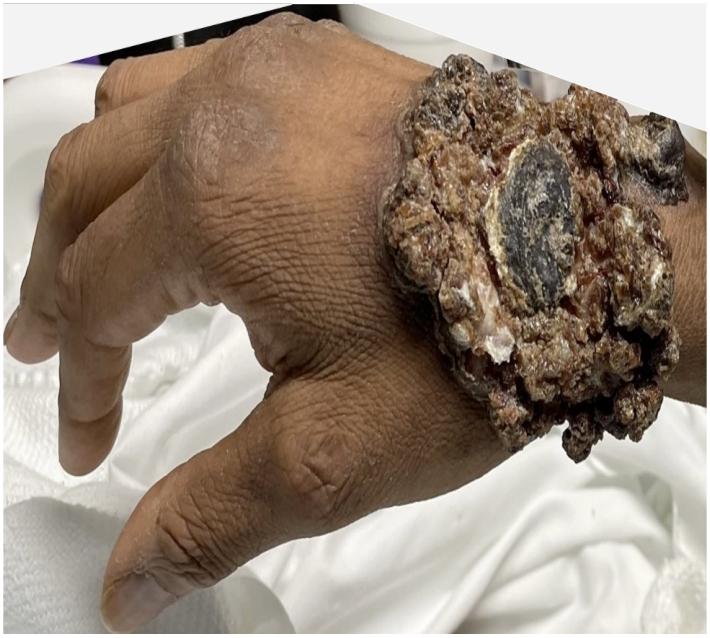

Figure 2: Some of the lesions were about 10 cm in diameter, which interfere with the patient's performance (right wrist).

Discussion

Monkeypox is a member of the Poxviridae family and is a large, double-stranded epidermotrophic DNA virus that has the unusual ability to replicate in the cytoplasm of the infected host cells. The first case was discovered in a 9-year-old boy in Zaire back in 1972 [1]. In 2003, an imported animal caused the first outbreak in the United States [2]. With an average incubation period of 12 days, diseased animals are capable of transmitting the pathogen to humans.

The most important member of this family is smallpox; however, vaccination provides protection. Smallpox and monkeypox have similar clinical findings except pronounced lymphadenopathy and lower mortality rate which are seen in monkeypox. Animal to human transmission may be the result of contact with infected Prairie dog or Gambian giant rats, domestic pigs, squirrels, or other rodents. In 2003, an imported animal caused the first outbreak in the United States [2] With an average incubation period of 12 days, ill animals are capable of transmitting the pathogen to humans.

Transmission can occur through direct cutaneous contact, eating infected animals, or through respiratory droplets. Sexual transmission, in particular men who have sex with men, has been suggested as another possible route of infection.

Monkeypox is associated with fever, headache, vomiting, and low back pain. While mortality was exceptionally low in the United States during the 2003 outbreak, complications reported from various African outbreaks include bronchopneumonia, sepsis, encephalitis, pitted scars, deforming scars, secondary bacterial infection, and keratitis. The exanthema evolved synchronously over 14-21 days, like in smallpox. However, in contrast to smallpox, the lesions do not show a strong centrifugal distribution and instead progress from macules to papules to vesicles that evolve from postulating to umbilication crusting, and finally followed by desquamation [3].

Histologically, cutaneous lesions are typically the most easily acquired samples and show ballooning degeneration of epidermal cells and viral inclusions (large eosinophilic cytoplasmic inclusions) (Figure 3). Most of these lesions are 3-15 mm in diameter. However, here we are reporting a patient with concurrent HIV/AIDS with CD4 level 135 to have disseminated monkeypox with lesions up to 6 cm in various degrees of healing. Additionally, the patient experienced lymphadenopathy, intermittent low-grade fevers, and altered mental status with hypo-densities in the white matter, and pulmonary nodules. During his admission the cutaneous lesions were crusted with some superinfected and other desquamating, leaving an erythematous plaque.

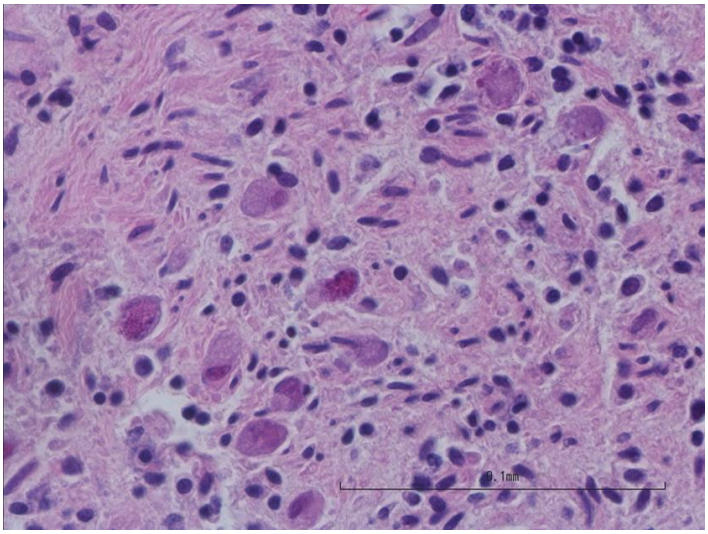

Figure 3: Cutaneous lesions.

Current guidelines for the treatment of monkey-pox include Tecovirimat (approved by the FDA to treat Smallpox), Brincidofovir, and vaccinia immune globulin. Cidofovir is also available commercially. It is advised that Tecovirimat to be used only in patients with severe monkeypox disease or those who are

at high risk of severe disease and is considered an investigational drug for monkeypox and data on safety and effectiveness is very limited. [4, 5].

The patient received intravenous immunoglobulin (IVIG), Cidofovir, Tecovirimat, HARRT antibodies, and antibiotics. The size of the lesions diminished drastically over a month. After 7 months, most of the lesions are almost healed (Figure 4).

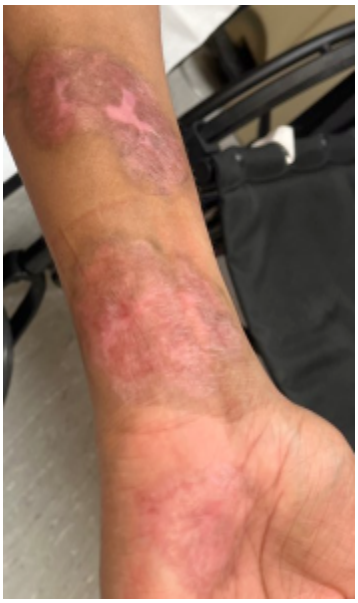

Figure 4: After 7 months of treatment for AIDS and monkeypox the lesions are healed (left forearm).

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