Widespread hemorrhagic varicella in 2 cases of HIV-AIDS

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ABSTRACT

Varicella or commonly known as chicken pox is caused by varicella-zoster virus (VZV) that is usually seen as a vesicular eruption in children. It is a highly contagious infection and is the result of exogenous primary infection of a susceptible individual. Immunocompromised individuals have impaired cell-mediated immunity and are prone to develop severe disease. They may have atypical presentations and lesions may sometimes appear hemorrhagic.

We report two separate cases of HIV-AIDS patients presenting with erythematous umbilicated papules in which the initial clinical impression was molluscum contagiosum. Skin punch biopsy was done and revealed hemorrhagic varicella. Patients were started on intravenous acyclovir with noted remarkable improvement.

This case report highlights the clinical and histopathologic features of hemorrhagic varicella. A skin biopsy is mandatory to establish the correct diagnosis and to initiate proper treatment.

Key words: varicella, HIV-AIDS, acyclovir

INTRODUCTION

Varicella usually presents as a mild vesicular eruption in children.[1] A distinct feature of varicella is the manifestation of lesions at all stages during the course of the disease.[4] It is described as generalized and rapidly evolving from macules, papules to vesicular lesions before crusting.[4] It is a very contagious infection and is the result of exogenous primary infection of a vulnerable individual.[1] A person infected with varicella is infectious for one to two days before the lesion appears and for four to five days later until the last crop of vesicles has crusted.[1] The mean incubation period is fourteen to seventeen days, with a range of ten to twenty-three days. The major route of varicella infection is from the respiratory tract by airborne droplets or aerosols but it can also be spread by direct contact.[1]

However, in immunocompromised patients, there is longer duration of new lesion formation and higher median lesion counts.[3] They can have atypical presentations with more lesions, may appear on the palms and soles, and lesions may appear hemorrhagic.[2] Hemorrhagic complications seems to be common in the immunocompromised populations.[5] Intravenous acyclovir has been the standard of treatment for varicella in immunocompromised patients.[1] Majority that is treated with acyclovir can have good response.[4]

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Case Report

We report two separate cases of HIV-AIDS patients with CD4 counts of 4 and <5, respectively. The first case is a 22-year-old male, who presented with a one week history of multiple erythematous papules and pustules with central umbilication and few crusts on the face, trunk and extremities (Figure 1 A-C). The second case is a 27-year-old male with a one week history of multiple, erythematous papules with central

umbilication and few crusts on the face, trunk and extremities (Figure 2 A-C). The initial clinical impression on both cases was molluscum contagiosum. The differential diagnosis was cryptococcosis. Dermoscopy of skin lesions on both patients revealed poly-lobular cloudy white structures with surrounding erythema and central brown dots, suggestive of varicella or herpes infection (Figure 1C and 2C).

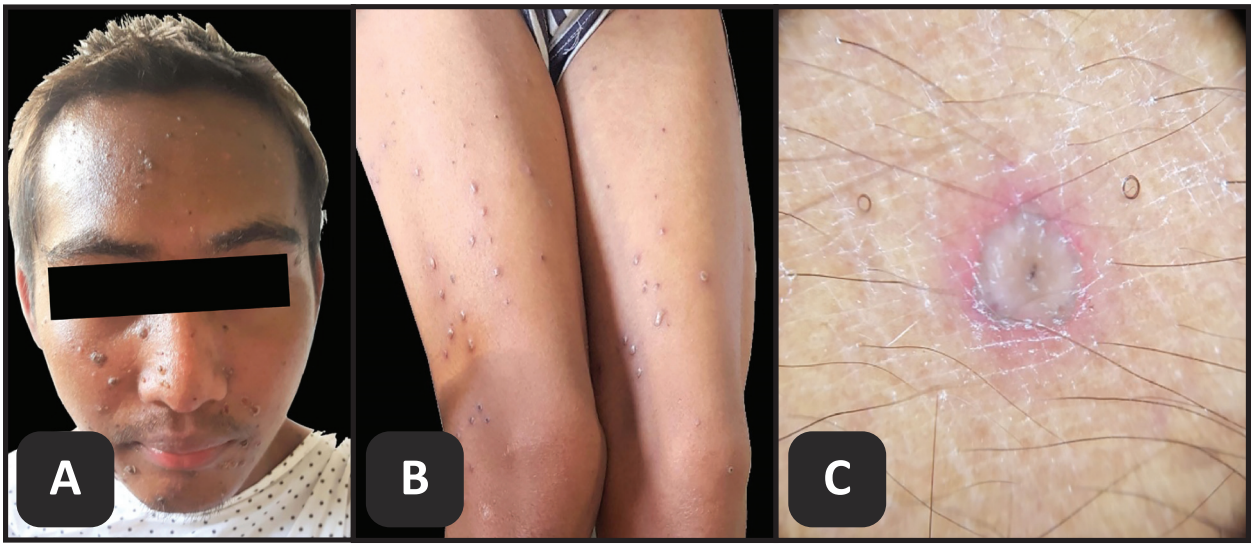

Figure 1. Multiple erythematous papules and pustules with central umbilication and few crusts on the face (A) and lower extremities (B). Poly-lobular cloudy white structure with surrounding erythema and central brown dot were seen on dermoscopy (C).

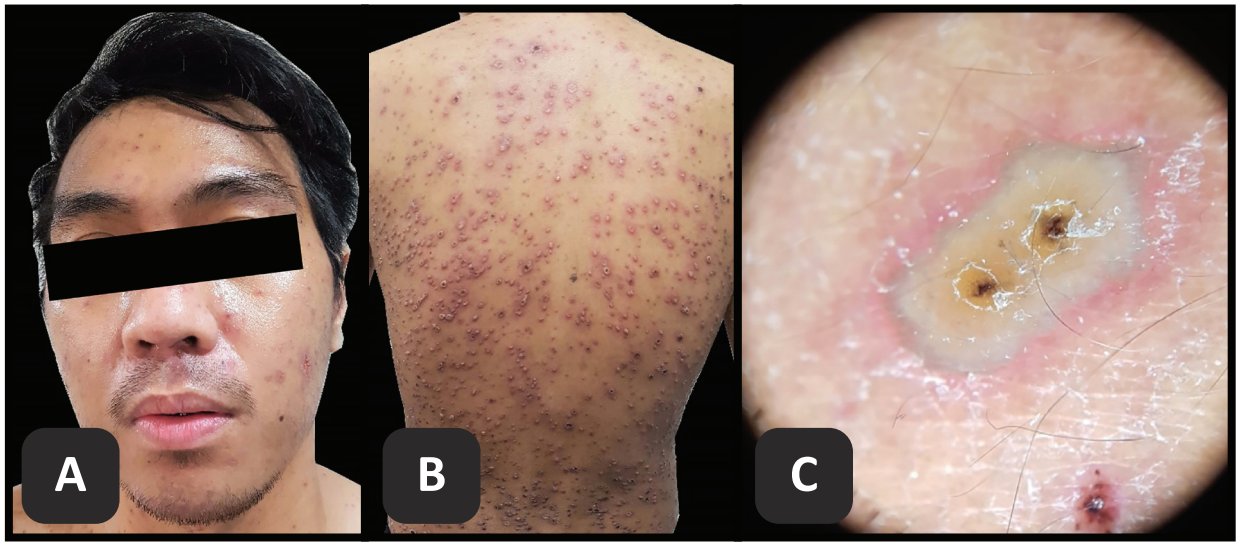

Figure 2. Multiple, erythematous papules with central umbilication and few crusts on the face (A) and back (B). Poly-lobular cloudy white structures with surrounding erythema and central brown dots on dermoscopy (C).

Skin punch biopsy on both patients were done revealed reticular alteration of the epidermis and formation of an intraepidermal blister containing giant cells and numerous neutrophils. The dermis revealed hemorrhage and a mild superficial and mid-dermal inflammatory infiltrate consisting of lymphocytes, histiocytes, and neutrophils (Figure 3 and 4).

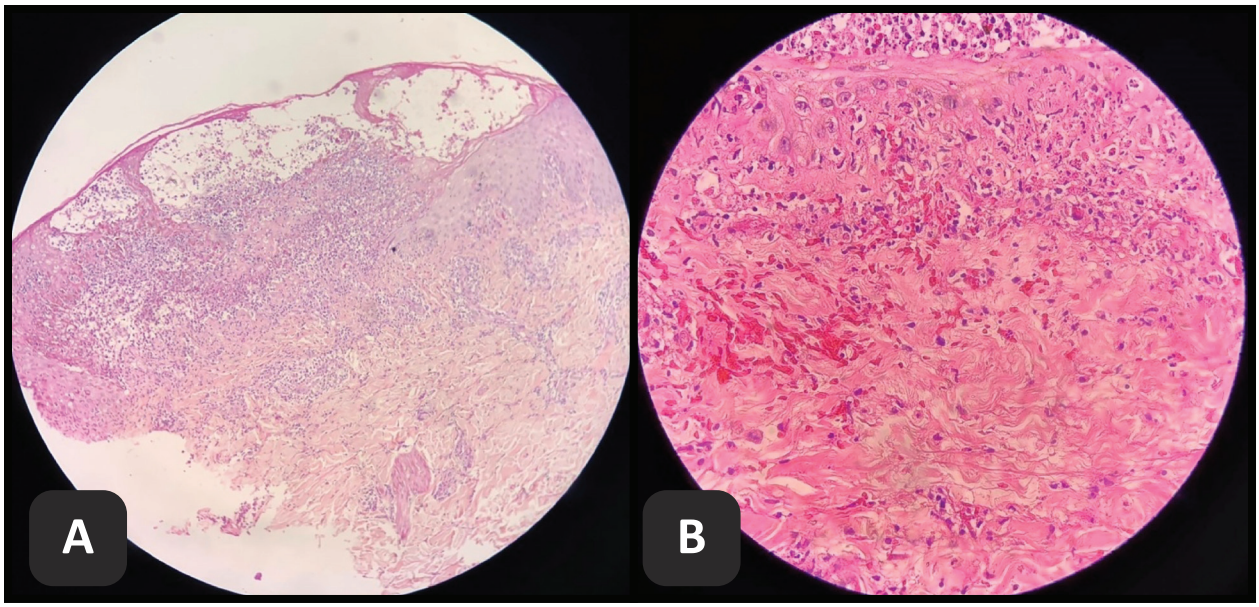

Figure 3. (A) Reticular alteration of the epidermis and intraepidermal blister with giant cells and numerous neutrophils (H & E x 100). (B) The dermis revealed hemorrhage and a mild superficial and mid-dermal inflammatory infiltrate of lymphocytes, histiocytes, and neutrophils (H & E x 400).

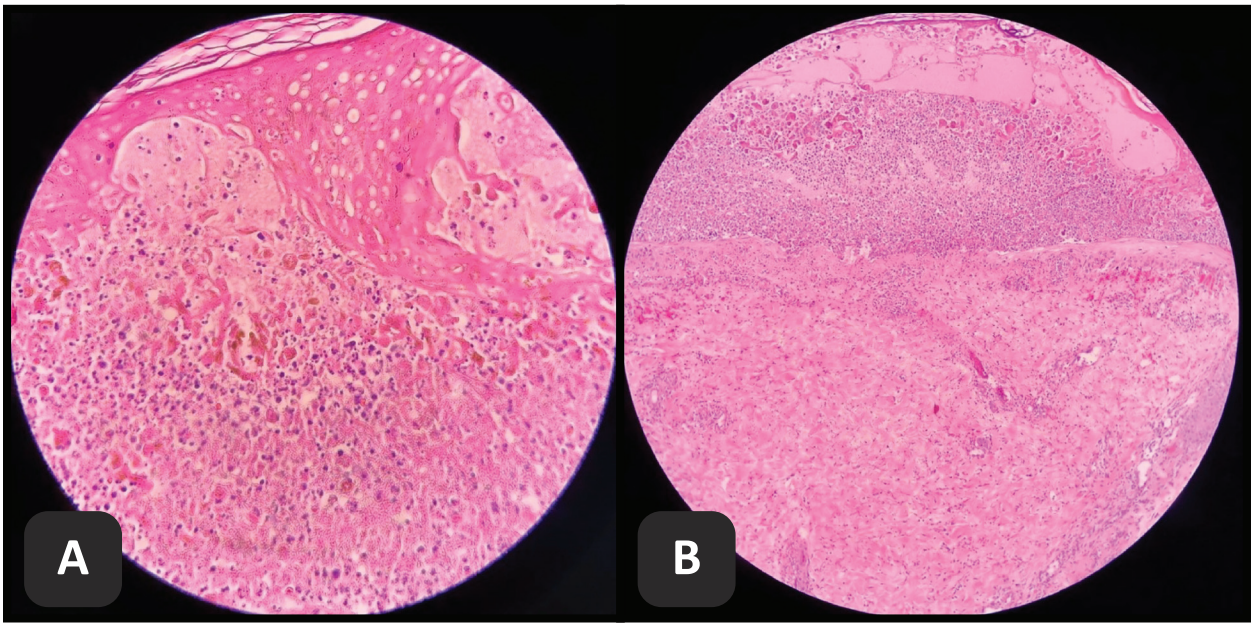

Figure 4. (A) Intraepidermal blister with giant cells and numerous neutrophils. Extravasations of RBCs in the dermis with various inflammatory infiltrates (H & E x 100). (B) The dermis revealed hemorrhage with inflammatory infiltrates (H & E x 400).

Histopathological diagnosis on both patients was hemorrhagic varicella. Patients were started on IV acyclovir at 10mg/kg every 8 hours for one week on each patient with remarkable improvement.

DISCUSSION

An estimated 60 million cases of varicella occurs worldwide each year.[5] In tropical and semitropical countries, the mean age of varicella is higher, and susceptibility among adults is significantly greater.[1] This geographical variation is important for hospitals, where susceptible health care workers from semitropical areas, such as the Philippines and Mexico, may pose a significant risk of nosocomial varicella.[1] However, varicella has been reported to occur in hospitalized patients who are suspected to have indirect contact with air currents from rooms of patients with varicella and zoster.[4] In this case report, both of the subjects had unrecalled varicella vaccination and previous infection, and no known recent exposure among households who developed chickenpox. The spread of infection is by respiratory droplets which usually require face-to-face exposure.

The clinical appearance of varicella in children with HIV is frequently similar to that seen in immunocompetent children, although some studies show that in immunocompromised patients – both children and adults, have more lesion count, often with a hemorrhagic base and take longer to heal than of immunocompetent patients.[2-3,6] Even when both of the subjects had atypical skin lesions of varicella, isolation precautions were still facilitated upon admission and skin punch biopsies were requested. Both subjects were initially diagnosed clinically as having molluscum contagiosum, and a differential diagnosis of cryptococcosis was also considered.

Management of varicella in immunocompromised patients is mostly symptomatic and supportive. It is also aimed to decrease the risk of complications. Hospitalization and initiation of IV antiviral treatment using acyclovir is recommended.[4] Acyclovir, a DNA nucleoside analogue, may be life saving in such circumstances but to be effective, it must be given as early as possible.[5] Many studies have showed that acyclovir lessens the time of viral shedding and formation of new lesions. It also hastens the healing of lesions and prevents the progression to disseminated disease.[4] Both subjects in this case report were given with intravenous acyclovir.

Majority of patients will recover from the disease however, some will experience complications like bleeding disorders due to vasculitis, idiopathic thrombocytopenic purpura, or disseminated intravascular coagulation.[3] There is profound immunosuppression in patients with HIV-AIDS with progressive depletion of CD4+ T lymphocytes, probably this is the reason of hemorrhagic varicella in both of our cases.[6]

Management of varicella in immunocompromised patients should be considered as a matter of great urgency. Patients must avoid contact with patients with varicella and if not feasible, early administration of immune globulin and acyclovir is advised.[5] Varicella is a vaccine-preventable disease which can be given to VZV-seronegative persons >13 years of age for two doses of vaccine at least 1 month apart.[6] Because of the increased severity of varicella in adults, all susceptible adults should be identified and vaccinated.[1] Apart from household members, indirect protection for immunocompromised persons can be done by immunization of health care workers.[4]

CONCLUSION

Hemorrhagic varicella can mimic molluscum contagiosum in HIV-AIDS patients. A skin biopsy is mandatory to establish the correct diagnosis and to initiate proper treatment.

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