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KAPOSI'S VARICELLIFORM ERUPTION: A POTENTIALLY LIFE-THREATENING COMPLICATION OF ATOPIC DERMATITIS

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ABSTRACT

Introduction: Kaposi's varicelliform eruption (KVE), also known as eczema herpeticum or eczema vaccinatum, is an acute dermatosis that affects patients with chronic dermatopathies. The diagnosis is primarily clinical and is characterised by the presence of a vesicular exanthema on physical examination. The exanthema subsequently evolves into crusted lesions with typical circular ulcerations in 'punched-out' areas on the skin affected by the underlying dermatopathy.

Case description: We present the case of a 6-year-old patient who presented to the Paediatric Emergency department with skin lesions consistent with eczema herpeticum. The patient's management was initially outpatient; however, due to the slow progression of the condition, hospitalisation and intravenous antiviral treatment were initiated.

Discussion: KVE affects patients with chronic dermatoses, especially atopic dermatitis. It is important to know the clinical presentation for an early suspicion. KVE is a medical emergency that requires prompt diagnosis and treatment. It can progress to secondary viraemia, which can be fatal in up to 10% of immunocompetent individuals and up to 50% of immunocompromised individuals. It is important to be aware of this condition and to start early treatment with antivirals, especially given the high prevalence of atopic dermatitis in our population. This condition is one of the most serious complications that can occur in these patients.

KEYWORDS

Kaposi's varicelliform eruption, eczema herpeticum, eczema vaccinatum, atopic dermatitis, herpes simplex virus

LEARNING POINTS

- To facilitate early suspicion and diagnosis, disseminate information about eczema vaccinatum.
- Emphasise the importance of initiating antiviral treatment early to prevent potential complications of eczema herpeticum.
- If left untreated, Kaposi's varicelliform eruption can result in up to a 10% mortality rate in immunocompetent individuals and a 50% mortality rate in those who are immunocompromised.

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INTRODUCTION

Kaposi's varicelliform eruption (KVE) is an acute dermatosis that affects patients with chronic dermatoses, due to the cutaneous dissemination of the herpes simplex virus (HSV)[1]. It occurs mainly in patients with atopic dermatitis (< 3%)[2]. Its diagnosis is primarily clinical and is characterised by the presence on physical examination of a vesicular exanthema that subsequently evolves into crusted lesions with typical circular ulcerations in 'punched-out' areas. These lesions are generally present in the areas of the skin affected by the underlying dermatopathy, although they can also spread to healthy skin areas or affect internal organs, posing a threat to the patient's life[3].

CASE DESCRIPTION

A 6-year-old male patient with a history of atopic dermatitis presented to Paediatric Emergency with pruritic skin lesions on the right antecubital flexure for 7 days. He had started topical corticosteroid treatment in the previous 48 hours, which worsened the lesions. Additionally, the patient's mother and sister had presented with cold sores in the days before the onset of the patient's symptoms.

The physical examination showed the presence of clustered vesicular lesions on an erythematous base and crusty lesions with circular ulcerations in 'punched-out' areas in the right antecubital fold *(Fig. 1)*, vesicular lesions on an erythematous base in the right axilla, one in the left antecubital fold, and bilateral axillary lateral cervical lymphadenopathy. The patient was diagnosed with KVE and treated with oral acyclovir for 10 days, as well as topical zinc sulphate and mupirocin for the vesicular-crusty lesions. Corticosteroid treatment was discontinued.

After 24 hours, the patient returned to the Emergency Department for follow-up on the lesion evolution *(Fig. 2)* and new lesions were observed in healthy skin areas. The patient also had a fever spike of 38.2 °C. Due to slow progress, he was admitted to the Paediatric Ward for intravenous antiviral treatment and topical care with mupirocin and zinc sulphate. After 5 days the patient was afebrile, in good condition and showed significant improvement in the lesions upon physical examination. Consequently, he was discharged from the hospital and completed oral antiviral treatment at home with follow-up by the primary care paediatrician, with good progress.

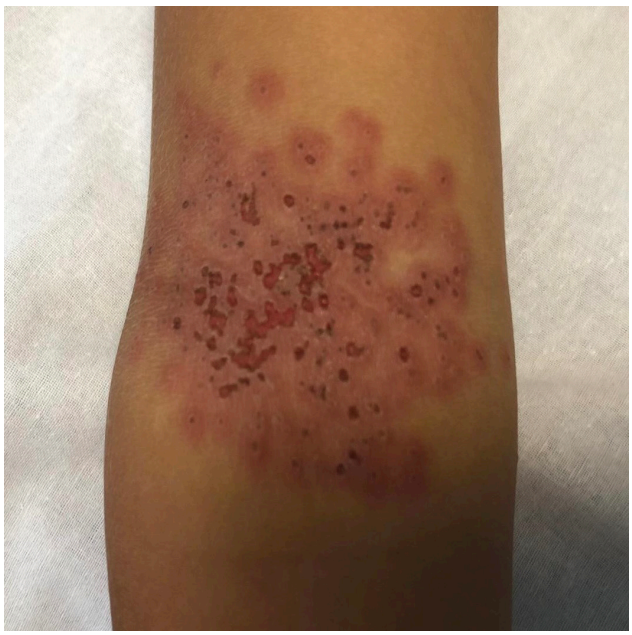

Figure 1. A photograph was taken during the patient's initial visit to the emergency room, which shows clustered vesicular lesions on an erythematous base, along with crusty lesions and circular ulcerations typical of 'punched-out' lesions in the right antecubital flexure.

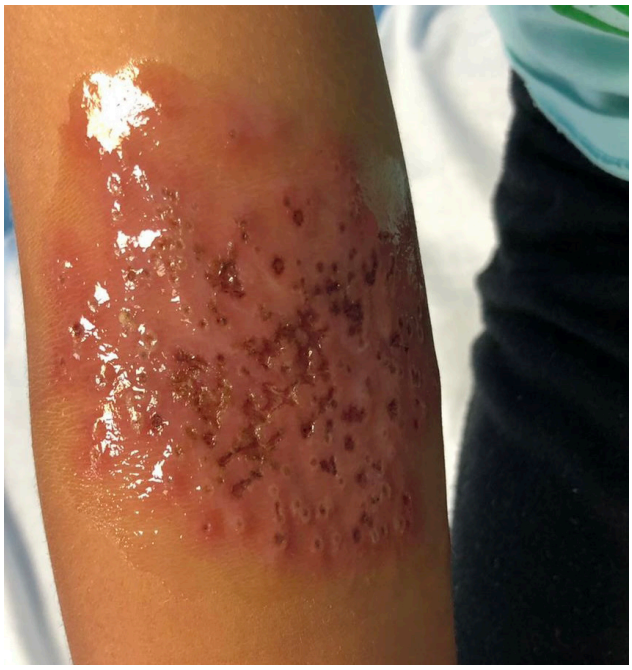

Figure 2. A photograph taken during the 24-hour follow-up visit shows lesions in the right antecubital flexure after topical antibiotic treatment.

DISCUSSION

KVE, also known as eczema herpeticum or eczema vaccinatum, was first described by Kaposi in 1887. This infection affects patients with various chronic dermatoses, such as seborrheic dermatitis, pemphigus vulgaris, ichthyosiform erythroderma, extensive burns, mycosis fungoides, Hailey-Hailey disease, psoriasis or Darier's disease[4]. However, atopic dermatitis is the most common association with KVE. We present a patient with atopic dermatitis, a chronic skin condition.

KVE is caused by the cutaneous dissemination of HSV, including both type 1 and type 2. However, isolated cases have also been reported with the Coxsackie A16 virus and vaccinia virus (vaccinia eczema). During our clinical interview, we learned that the patient's mother and sister had cold sores in the days leading up to the onset of his skin lesions.

In paediatric patients, eczematous skin can serve as a gateway for infection, often transmitted by contact with family members affected by HSV. The clinical presentation is typically characterised by a rapid and extensive vesicular

eruption on areas of skin previously affected by eczema, with a preference for the upper half of the body. The vesicular lesions then become umbilicated and/or pustular before eventually becoming crusty with a 'punched-out' appearance[3]. Additionally, high fever is common during the first few days of the condition. During our patient's physical examination, we observed cutaneous lesions accompanied by regional lymphadenopathy.

It is important to suspect this condition early and initiate treatment to avoid possible complications such as bacterial superinfection – mainly by *Staphylococcus aureus* – and visceral dissemination that can lead to potentially fatal sepsis, which can result in up to a 10% mortality rate in immunocompetent individuals and a 50% mortality rate in those who are immunocompromised[5].

The diagnosis is primarily based on a clinical interview regarding the patient's history of previous dermatoses, along with a physical examination that suggests the condition. In our patient's case, the diagnosis was made quickly due to the high level of diagnostic suspicion.

Antiviral treatment has proven to be effective. Acyclovir is commonly used, although other therapeutic alternatives are valacyclovir or famciclovir. In addition to oral treatment, local care of the lesions and topical antibiotic therapy are recommended, and in cases of significant bacterial superinfection, the initiation of systemic antibiotic therapy should be considered.

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