International Journal of Paediatric Dentistry 2005; **15:** 136–139

Eczema herpeticum: a case report

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Summary. Primary herpetic gingivostomatitis is a relatively common and well-recognized condition that the dental practitioner may encounter in clinical practice. A primary herpetic infection in a child with atopic dermatitis such as eczema, however, predisposes them to eczema herpeticum. This can be a severe and potentially life-threatening condition. This paper describes one such case, discusses the aetiology, presentation and management of this condition, and highlights the importance of early recognition by the clinician.

Introduction

Eczema is not a condition commonly associated with primary herpetic gingivostomatitis. In some cases, however, a primary herpetic infection in a patient with eczema may result in a distinct acute dermatological condition known as eczema herpeticum. It is defined as an acute disseminated herpes simplex infection in a patient with atopic dermatitis, and is often associated with systemic symptoms.

Case report

An 18-month-old baby presented to the Paediatric Accident and Emergency Department of Birmingham Dental Hospital, Birmingham, UK, accompanied by her mother on 25 August 2002. This was following a referral from the Accident and Emergency Department of Birmingham Children's Hospital, where the child had presented one day earlier with fever and malaise. On clinical examination, diffuse ulcers had been noticed in the mouth and the beginnings of an extraoral rash had been found. Assuming this was a primary herpetic infection, the patient was referred to the Dental Hospital.

Extraoral clinical presentation revealed a rash present on the face consisting of small (3 mm) raised papules which were not filled with fluid and not distributed according to neurological boundaries, but arranged in diffuse clusters around the eyes and mouth. Intraoral examination revealed distinct ulcers present on non-keratinized mucosa, along with widespread oedematous gingival inflammation. There was also sloughing associated with a partially erupted upper left first primary molar (64).

Systemically, the child had a spiking temperature, appeared distressed and was anorexic. Medically, she was fit and well, although she had been diagnosed as having eczema a few months earlier. There was no recent history of foreign travel, nor any contact with relatives who had been abroad. The child had no previous history of such a clinical picture, and neither did her parents nor siblings.

The clinical picture did not entirely fit one of a primary herpetic infection, and as the systemic symptoms worsened, the child was referred back to the Children's Hospital. On this second referral, the now fulminating and more extensive rash began to yield some clues. A diagnosis of eczema herpeticum was made.

The child was subsequently admitted for intravenous antiviral treatment. In addition, systemic antibiotics were started to counter super-infection of the now rupturing lesions on the face. The child was also started on parenteral fluids and analgesics. Further confirmation of the diagnosis was obtained by viral titres and referral for a dermatology opinion that stated that this clinical picture was typical of eczema herpeticum.

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Discussion

Eczema herpeticum

Many dental practitioners and paediatric specialists in dentistry may not be familiar with this condition. Therefore, an outline of the aetiology, epidemiology, clinical features, treatment and prevention of eczema herpeticum is given below. This is followed by a discussion of the role of the dentist in its diagnosis and prevention.

Aetiology

The majority of children with atopic dermatitis come into contact with herpes simplex virus (HSV) and have no problem in dealing with it [1]. It appears, however, that the reason that some children with atopic dermatitis are susceptible to widespread cutaneous infection is multifactorial [2]. Acute episodes of HSV infection are known to transiently suppress cellular immune responses [3]. Another possibility is reduced natural killer cell activity in atopic dermatitis, which may allow HSV to proliferate sufficiently to have a suppressive effect on immune mechanisms such as IL-2 receptors, resulting in HSV infection becoming extensive and disseminated [2].

Epidemiology

Children of all ages and ethnic groups may be affected by eczema herpeticum, with those in the first 2–3 years of life having the highest incidence [4]. No seasonal variation in the incidence of eczema herpeticum has been observed. Several authors have documented the history of a close relative, however, with recurrent HSV labialis having an active lesion around the time of eczema herpeticum [4,5,6]. Most parents are unaware that, if a child with atopic dermatitis is in contact with someone else who happens to have 'cold sores', then eczema herpeticum may develop.

Clinical features

The clinical picture is one of a sudden deterioration of a child's eczema [7]. Vesicles are the most common lesions, but presenting lesions may also include pustules, papules (Figs 1–3), crusts and even punched-out lesions. Lesions may be either discreet or confluent, and tend to occur in crops, resulting in lesions being at different stages [8].

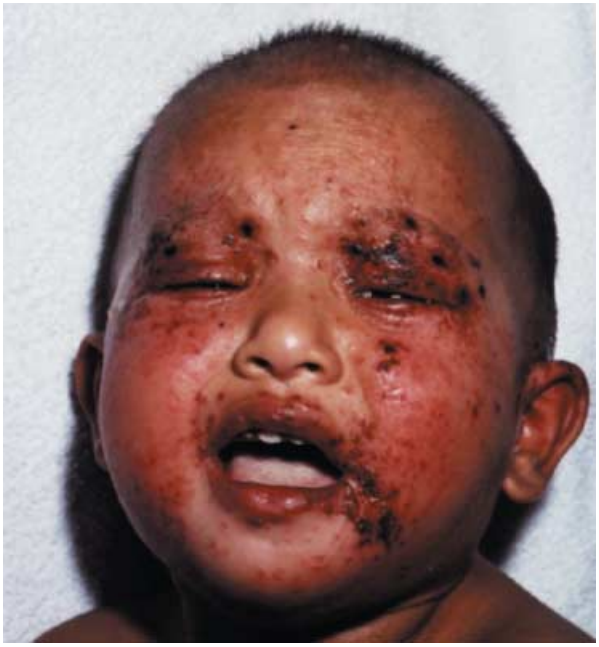

Fig. 1. Photograph showing diffuse clusters of raised papules and vesicles, some of which have burst, forming crusted areas on the face.

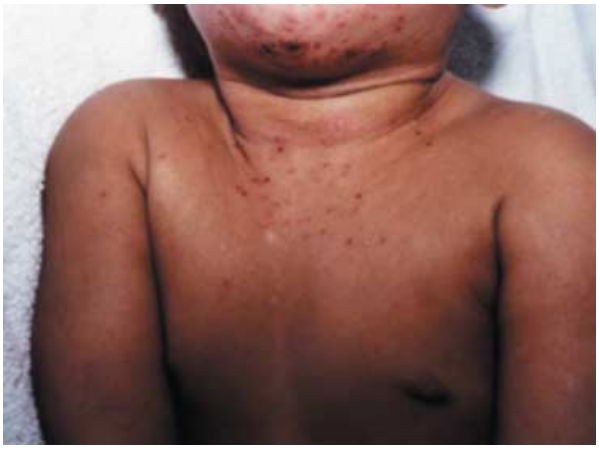

Fig. 2. Photograph showing the spread of lesions to the upper part of the torso.

Other signs include pyrexia, which may be present in 40–75% of cases. Associated clinical symptoms include intense itching, malaise, vomiting, anorexia, diarrhoea and lymphadenopathy, almost all of which this baby presented with. At the height of the vesicular phase, widespread dissemination of virus may occur and lead to multi-system involvement [6]. Secondary bacterial infection may be present, usually

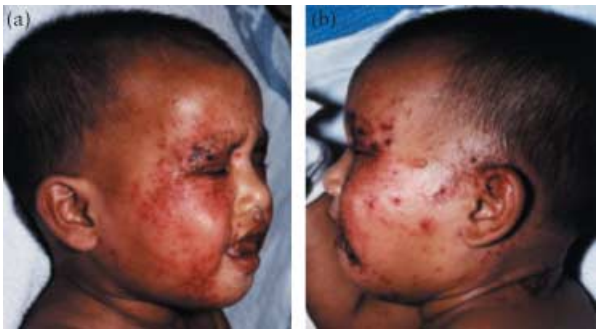

Fig. 3. (a) Right and (b) left facial views showing extensive diffuse crops of papules, pustules and crusted lesions extending to the back of the left ear and the nape of the neck.

caused by *Staphylococcus aureus* and group *Streptococcal* infection [9], and therefore, antibiotic treatment is often indicated along with antiviral treatment.

Treatment and prevention

Supportive management. This mainly involves local skin care; for example, antipyretics, analgesics and antibiotics for the treatment of secondary bacterial infections. It is also important to administer parenteral fluids in case of dehydration and to restore the acid-base balance. There has been some concern that topical steroid therapy may predispose to cutaneous viral infection and encourage the spread of HSV. Consequently, it is worth considering stopping topical steroid therapy during the acute phase of the condition.

Antiviral therapy. This mainly involves systemic aciclovir. It is administered intravenously as an infusion over 1 h, in a dose of 500 mg/m^2 three times a day [1]. Less extensive lesions in children who are not systemically unwell respond well to oral aciclovir [10].

General education. There needs to be increased public awareness for parents about the risk of contact with adults who may have 'cold sores' for children with atopic dermatitis.

Recurrent infections. About 20% of children will have recurrent HSV infections following eczema herpeticum. This tends to recur within a few months of the primary infection [11]. In contrast to eczema herpeticum, these lesions are usually localized affecting two or three different areas and usually only severe if there is an underlying immune defect. Recurrences are often recognized quickly [7]. Most require no treatment, but if recurrences are a problem, patients respond to either topical or oral aciclovir [10].

Conclusion

This clinical case has highlighted the importance to the dental practitioner of recognizing this potentially fatal condition. In the average, hurriedly taken, medical history, the mention of eczema may very likely be dismissed as of not much consequence. The dental practitioner, however, is in an important position in the diagnostic ladder because, as a community-based practitioner, the patient may present to them first. Furthermore, the lesions may first occur in the mouth and very closely resemble a primary herpetic infection.

The importance of early detection is reiterated by the fact that most children, if treated in the first few days of the infection, quickly respond to therapy. It is worth noting that eczema herpeticum may present as a fulminating disease with subsequent mortality despite the use of general supportive therapy and intravenous acyclovir [6]. Morbidity and mortality are often associated with a delay in presentation [12].

This paper also stresses the importance of the clinician being aware of the risk of contact of children with atopic dermatitis with adults who may have secondary herpes. This is another area where the dentist is often in the frontline and may play a role in prevention through general education.

Résumé. La gingivo-stomatite de primo-infection herpétique est une pathologie relativement commune et bien reconnue que le praticien peut rencontrer dans le cadre de sa pratique. Cependant une primo-infection herpétique chez un enfant avec dermatite atopique telle qu'un eczéma prédispose à un eczema herpeticum. Ce problème peut être sévère et mettre en danger la vie de l'enfant. Cette présentation décrit un tel cas et en discute l'étiologie, l'aspect et la prise en charge, faisant ressortir l'importance d'un diagnostic précoce par le praticien.

Zusammenfassung. Eine Gingivostomatitis als Erstmanifestation einer Herpesinfektion ist eine häufige, gut bekannte Erkrankung, die jedem Praktiker im Berufsalltag begegnen kann. Allerding ist bei Vorliegen einer atopischen Dermatitis das Kind prädisponiert, ein Ekzema herpeticum zu entwickeln.

Diese kann schwer und potentiell lebensgefährlich verlaufen. Vorliegend wird ein solcher Fall beschrieben und Ätiologie, klinisches Bild und Therapie diskutiert. Die Bedeutung einer frühzeitigen Diagnose wird hervorgehoben.

Resumen. La gingivoestomatitis herpética primaria es una enfermedad relativamente común y bien reconocida que el dentista puede encontrar en su práctica clínica. Sin embargo, una infección herpética primaria en un niño con dermatitis atópica con las características de un eccema le predispone a un eccema herpético. Este puede ser severo y una afección potencialmente amenazante para la vida. Esta presentación describe esta situación y discute la etiología, la presentación y el tratamiento de esta enfermedad y subraya la importancia del reconocimiento precoz por parte del clínico.

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