

## TITLE PAGE

### TITLE:

Eczema exacerbation caused by coxsackievirus A6

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Eczema and coxsackievirus A6

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Article type : Case Letter

TITLE:

Eczema exacerbation caused by coxsackievirus A6

We describe a retrospective case series of paediatric patients who presented with atypical flares of eczema caused by Coxsackievirus A6. Cases were identified over a 3 month period in a tertiary paediatric hospital. Patients were included if they tested positive for enterovirus on polymerase chain reaction from skin swabs, in addition to having a significant cutaneous eruption. Enterovirus subtyping was performed on positive specimens where possible and coxsackie virus A6 identified by nucleotide sequencing.

11 patients were included in this study (median age 13 months, range 8 to 25 months). All 11 cases were positive for enterovirus on polymerase chain reaction of skin swab samples. Of the 6 cases which underwent enterovirus subtyping, 5 patients were positive for coxsackievirus A6, with one sample unable to be processed. No other enterovirus subtypes were isolated. Herpes zoster virus and herpes simplex virus screening was negative on polymerase chain reaction of skin swabs in instances where they were taken.

All patients exhibited a sudden erythematous, vesiculobullous and erosive eruption with brown scale (Figure 1). All cases had involvement of the perioral area, wrists and hands, dorsal foot and ankle and upper legs. 2 cases showed accentuation in areas of eczematous dermatitis, termed “eczema coxsackium” (Figure 2). In 63% of patients, the eruption displayed signs of secondary bacterial infection and impetiginisation.

The majority of children had a preceding fever with coryza, followed by a widespread rash involving hands, feet and mouth, in addition to limbs, buttocks and trunk. Onychomadesis was not seen in the acute phase of the eruption. None of the patients displayed severe systemic symptoms or had systemic complications such as encephalitis.

In recent years, eczema exacerbations due to enteroviral infections such as hand foot and mouth disease (HFMD) have become increasingly common. Whilst hand foot and mouth disease has traditionally been caused by coxsackievirus A16 (1), coxsackievirus type A6 has been implicated in severe cutaneous eruptions, with outbreaks in Asia, Europe, America and New Zealand (2,3,4). This study confirms the presence of coxsackievirus A6 as an important infective agent in the exacerbation of eczema in Australia. Clinicians should consider coxsackievirus A6 infection in those with an erythematous vesicular and erosive eruption with brown crust/scale, particularly in young children with a previous history of eczema and contact with infected children.

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#### FIGURE LEGENDS:

FIGURE 1: Characteristic red-brown pseudovesicular lesions around the perioral area and on acral surface of an 8 month old male with confirmed Coxsackievirus A6.

FIGURE 2: A 12 month male with confirmed Coxsackievirus A6 “eczema coxsackium”. Lesions are worst over the areas of eczema in the flexures.

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