A case of eczema coxsackium with erythema multiforme–like histopathology in a 14-year-old boy with chronic graft-versus-host disease

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INTRODUCTION

Hand, foot, and mouth disease (HFMD) is a common, self-limited viral exanthem characterized classically by mild fever, small vesicles/erosions of the oral mucosa, and painful oval, gray vesicles involving the palms, soles, buttocks, and genitalia of young children. Coxsackievirus A16 (CVA16) and enterovirus 71 are the most frequently implicated pathogens.[1] However, there are increasing reports of atypical presentations caused by other viral serotypes, most commonly coxsackievirus A6 (CVA6).[2] Mathes et al[3] described 4 characteristic clinical morphologies of severe CVA6-associated atypical HFMD, including a widespread vesiculobullous eruption, localization of vesicles/erosions within areas of atopic dermatitis (eczema coxsackium [EC]), a Gianotti-Crosti–like eruption of vesicles and edematous papules in an acrofacial distribution, and petechial/purpuric papulovesicles on the palms and soles.[1,3] We report a case of EC presenting within lesions of chronic eczematous graft-versus-host disease (GVHD) with erythema multiforme (EM)/Stevens-Johnson syndrome (SJS)–like histopathology.

Abbreviations used:

CVA6:	Coxsackievirus A6
CVA16:	Coxsackievirus A16
EC:	eczema coxsackium
EV:	enterovirus
EM:	erythema multiforme
GVHD:	graft-versus-host disease
HFMD:	hand, foot, and mouth disease
HSV:	herpes simplex virus
RT-PCR:	reverse transcriptase polymerase chain reaction
SJS:	Stevens-Johnson syndrome

CASE REPORT

A 14-year-old boy presented to the emergency department with a 2-day history of a painful vesicular skin eruption along with a low-grade fever and sore throat. His medical history was significant for adrenoleukodystrophy/adrenal insufficiency treated 12 years prior with 2 myeloablative donor umbilical cord transplants and durable donor cell engraftment. Chronic eczematous GVHD was diagnosed by his transplant team during the first year after his transplant and managed with topical tacrolimus and oral methylprednisolone. His vesicular eruption involved the scalp, face, axillae, antecubital fossae, inguinal folds, penis, scrotum, buttocks, and dorsal hands (Fig 1). Notably, his eruption developed within sites at which he had known chronic GVHD (Fig 2). The patient's family increased his hydrocortisone from 5 mg 3 times a day to 30 mg 3 times a day. However, the rash continued to worsen with increasing pain, prompting his presentation to the emergency department. The patient was admitted for treatment of suspected eczema herpeticum.

Upon admission, he was afebrile, and a complete blood count and metabolic panel were normal. He was started empirically on intravenous acyclovir and continued on hydrocortisone, 30 mg 3 times a day.

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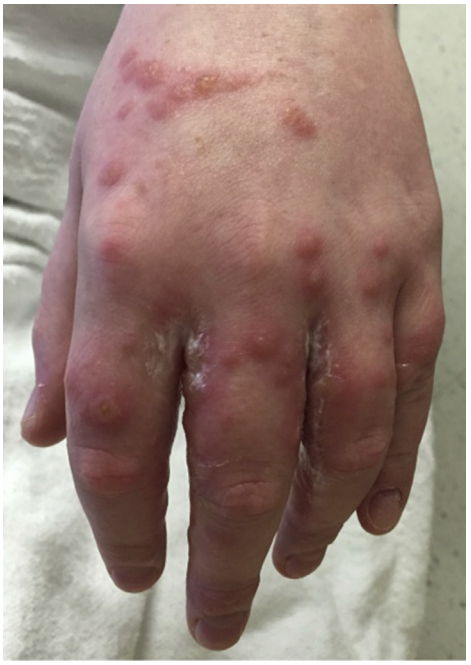

Fig 1. Atypical HFMD. Pink edematous papules and vesicles on erythematous bases to the dorsal hands and fingers. Macerated plaques in the interdigital spaces.

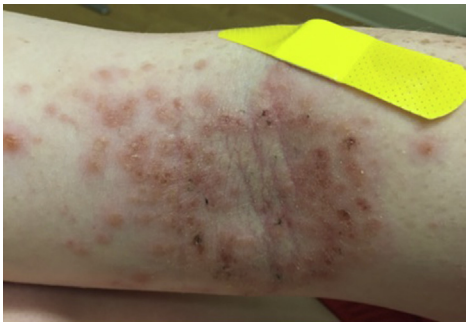

Fig 2. Eczema coxsackium. Background erythema and scaling in the antecubital fossa with overlying erythematous edematous papules, vesicles, and erosions.

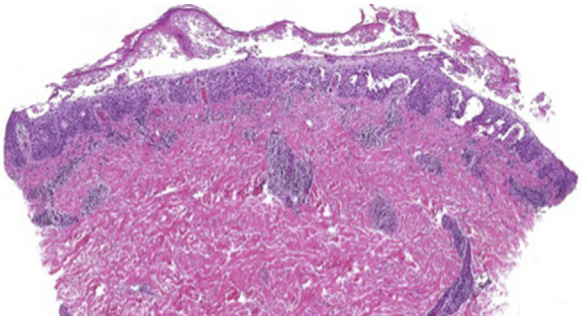

Fig 3. Coxsackievirus infection. Superficially necrotic epidermis with a papillary to mid-dermal inflammatory infiltrate. (Hematoxylin-eosin stain.)

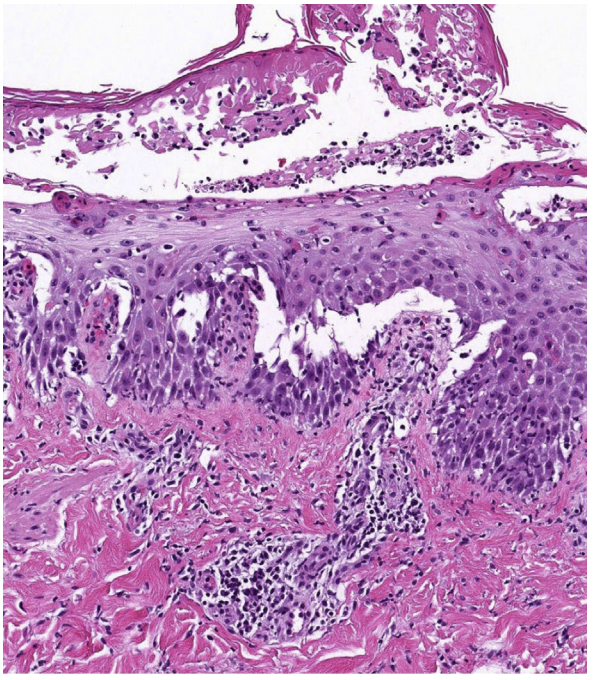

Fig 4. Coxsackievirus infection. Neutrophils present within the necrotic upper epidermis overlying scattered necrotic keratinocytes with associated lymphocytic vacuolar interface dermatitis. (Hematoxylin-eosin stain.)

On day 2, the patient had dusky violaceous macules on his palms, soles, and hard palate. No targetoid lesions were appreciated. The pediatric dermatology service favored a diagnosis of EC. Further history found that his school nurse had reported possible cases of HFMD within the last week.

A punch biopsy from the right arm found a prominent lymphocytic interface dermatitis with dyskeratotic keratinocytes at all levels. The superficial epidermis was necrotic and sloughed with associated neutrophilic aggregates. Within the dermis, there was a superficial to mid-dermal predominantly perivascular infiltrate composed of lymphocytes, histiocytes, and plasma cells along with rare eosinophils (Figs 3 and 4). No herpes viral cytopathic changes were noted.

Coxsackievirus A and B serum titers, enterovirus (EV) and herpes simplex virus (HSV) cultures from vesicle fluid, and rapid direct fluorescent antibody testing for HSV/varicella zoster virus from vesicle fluid were negative. However, EV serum reverse transcriptase polymerase chain reaction (RT-PCR) was positive, confirming the suspected diagnosis of an atypical presentation of HFMD, specifically