SHORT COMMUNICATIONS

Onychomadesis as a Manifestation of Coxsackievirus A6 in an Adult

Alfredo Siller Jr., MD[1]; Joseph Jebain, MD[1]; Mojahed M. Shalabi, BS[2]; Stephen K. Tyring, MD, PhD[1,3]

[1]Center for Clinical Studies, Webster, TX
[2]Texas A&M College of Medicine, Dallas, TX
[3]Department of Dermatology, University of Texas Health Science Center at Houston, Houston, TX

INTRODUCTION

Coxsackievirus (CV), also known as hand foot and mouth disease (HFMD), is generally considered to be a rare illness in adults. Traditionally, HFMD has been strongly associated with enterovirus 71 and Coxsackievirus A16 however, global outbreaks of a new virulent CVA6 strain has been reported since 2008. CVA6 has been shown to affect both children and adults and is associated with a more profound disease course that includes fever, sore throat, malaise, herpangina, a vesicular or maculopapular rash, and onychomadesis; a temporary cessation of nail growth that can lead to proximal separation of the nail plate from the nail matrix.[1]

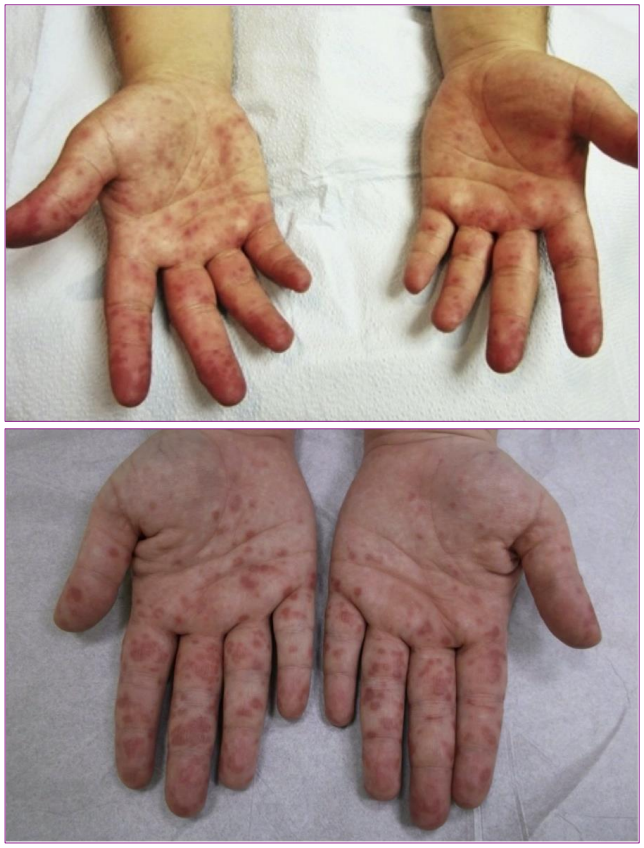
CASE PRESENTATION

A 32-year-old woman was referred to dermatology clinic for a painful rash of the hands and soles of four days duration, associated with malaise and subjective fevers. She denied any sick contacts. Physical examination revealed erythematous papules, pustules and vesicles on the hands and feet (Figure 1). Additionally, tender, erythematous plaques were noted in the oral mucosa. Two days prior, the patient presented to the emergency department and was suspected to have secondary syphilis, however, rapid plasma reagin (RPR) returned non-reactive. Serological assay by complement fixation (CF) for Coxsackievirus B (CVB) showed increased antibody titers for CVB 1, 2, 3, 5, 6, and 13. CF for Coxsackievirus A (CVA) 2, 4, 7, 9, 10, 16 antibodies was negative, however, quantitative reverse transcriptase polymerase chain reaction (RT-PCR) analysis and sequencing of buccal swabs returned positive for CVA6. At follow-up one month later, she developed increased tenderness and partial desquamation of the hands and feet. Re-examination revealed loosening and shedding of the proximal nails, consistent with onychomadesis (Figure 2).

DISCUSSION

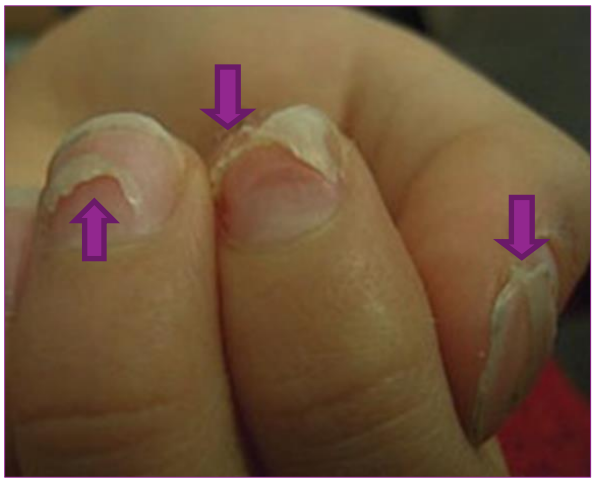
The differential diagnosis for onychomadesis includes high fever, severe systemic disease, drug-induced reaction (e.g.

Figure 1: Illustrative example of the classic Hand Foot and Mouth Disease palmar rash seen in our patient. Ramirez-Fort, M. K., et al, Journal of Clinical Virology, 60(4), 381-386. Reproduced with permission from Elsevier.



chemotherapy, anticonvulsants etc.), infections, and idiopathic causes.[2] A study of a HFMD outbreak of children in Taiwan showed that the incidence of onychomadesis following CVA6 infection was 37 percent (48/130) compared to 5 percent (7/145) in non-CVA6 infections. Additionally, 69 percent (33/48) of patients who developed onychomadesis were reported to experience concomitant palmoplantar desquamation before or at the time of nail changes.[3] Another study of a HFMD outbreak, in Spain, noted differences in the prevalence of onychomadesis in regard to age with a 55% (18/33) occurrence rate seen in the youngest age group (9–23 months), 30% (8/27) in the middle age group

Figure 2: Onychomadesis in the fingernails of our patient with Coxsackievirus A6 (purple arrows)



(24–32 months), and 4% (1/28) in the oldest age group (33–42 months). The causative agent for the HFMD outbreak in Spain was not CVA6 related, but rather other CV strains such as CVB1 and CVB2.[4] The definitive diagnostic method of choice for detecting CVA6 is RT-PCR from serum, skin scrapings, or buccal swabs. Other diagnostic methods include RPR and serological assay by complement fixation.[1] HFMD-induced onychomadesis is typically self-limited and usually no treatment is indicated. Management of CVA6 patients includes patient reassurance, hydration, and supportive care. The mean latency period of onychomadesis ensuing HFMD ranged from 1 to 2 months, average length 40 days, with only an average of 4 nails shed per case.[4]

To date only a small number of reports of HFMD-induced onychomadesis in adults have been described in the dermatological literature. Despite its low numbers, there has been a rise in incidence of HFMD in adults due to the more virulent strain, CVA6. It is reported that 11 percent of exposed adults become infected with HFMD however, fewer than 1% develop clinical manifestations.[1] The precise mechanism of onychomadesis in HFMD remains a mystery, but several

hypotheses have suggested fever, inflammation, or direct damage from viral replication as potential culprits.[2]

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Corresponding Author:
Alfredo Siller Jr., MD
451 North Texas Ave
Webster, TX 77598
Email: asillermd@gmail.com

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