Erythema Multiforme Major as the Initial Presentation of COVID-19 in a Teenager

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Introduction

Erythema multiforme (EM) develops in the setting of infection with herpes simplex virus type 1 in up to 90% of cases. In children, important additional triggers to consider include drugs (particularly penicillin), group A Streptococcus, and Epstein-Barr virus among other viruses and bacteria. EM lesions have been described in COVID-19 patients and are presumed to be a hypersensitivity reaction to the SARS-CoV-2 virus or related to hydroxychloroquine treatment. We present a case of EM as the initial presentation of COVID-19 in a teenager.

Case

A 13-year-old male presented with a 5-day history of target lesions beginning on his palms and soles and spreading to the neck, back, and face. Two days prior, he developed painful erosions on his lips and soft palate which was treated with mouthwash with no improvement. The patient then developed fingertip swelling that began the same day he presented to the ED. In the ED, the patient denied any recent medications, upper respiratory infection, exposures, genital involvement, or eye involvement. He admitted to having had 3-4 episodes of cold sores in the past year without skin involvement. He endorsed pain in his mouth while eating, however he could tolerate fluids. He was afebrile at the time of presentation. Past medical history was significant for asthma treated with albuterol at home.

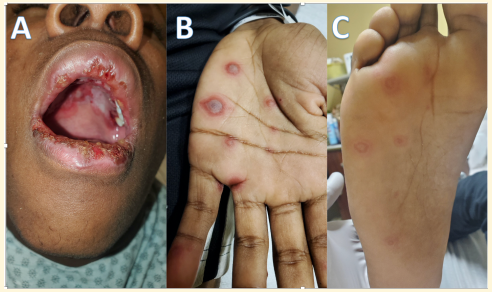

Figure 1
Physical exam revealed plaques with concentric erythematous circles and central clearing on soles, palms, and the neck, an eroded plaque on the left lower lip, and superficial erosions on the soft palate **(Figure 1).** Chest x-ray, CBC, RPR, CMV IgM, EBV-VCA IgM, HSV 1/2 PCR, and Mycoplasma IgM were unremarkable, however, SARS-CoV-2 PCR was positive.

Discussion

- In this case, a 13 year old male presented with minimal symptoms to suggest infection with COVID-19, but exhibited classical signs and symptoms of EM major, displayed on the surfaces of palms, soles, and oral mucosa as displayed in Figure 1.
- EM in the setting of COVID-19 is rare, however it may be more common in the pediatric population.
- EM-like eruptions have been reported in 3.7% of COVID patients.
- In a study examining pediatric cases of chilblains, four cases of concomitant EM in the setting of known or suspected COVID-19 were identified. These patients experienced mild or no viral symptoms and experienced full recovery of EM lesions with supportive measures[5].
- Positive immunohistochemistry staining for SARS-COV/SARS-COV-2 spike protein in endothelial and epithelial cells of eccrine glands were found in two of the four patients[5].

Conclusions

- Our case contributes to the growing number of reports that suggest that COVID-19 infection can trigger the development of EM.
- Underlying COVID-19 infection should be considered when evaluating a patient with Erythema multiforme, especially in the pediatric age group.

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