



Recurrent erythema multiforme in the setting of COVID-19 infection and oral candidiasis: a case for the dysregulation of the Th17-IL-17 Axis

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Introduction

- Erythema multiforme (EM) cases are usually self-limited with rare evolution into recurrent EM¹
- The IL-17 cytokine family may play a role in its pathogenesis²
- IL-17 inhibition is associated with an increased risk of candidal infections
- We present a rare (only the second reported) case of recurrent EM following COVID-19 in a patient with a history of recurrent oral candidiasis, suggesting a possible link to IL-17 dysregulation³

Case Report

- 27-year-old male with a history of EM secondary to COVID-19 and recurrent oral candidiasis developed flu-like symptoms and tested positive for COVID-19
- Developed a widespread macular rash that progressed to targetoid papules with mucosal erosions
- PE: erythematous targetoid papules and plaques scattered throughout the trunk and extremities with erosions on the lips, nares, and injected conjunctiva (Figure 1)
- Labs: unremarkable except for a mild leukocytosis and thrombocytosis. HSV swabs notably negative x 2
- Skin biopsy confirmed EM (Figure 2)
- Treated with a short course of prednisone and long-term suppressive therapy with oral valacyclovir 500 mg twice daily without recurrence to date (1 year)

Results

Figure 1



Figure 2

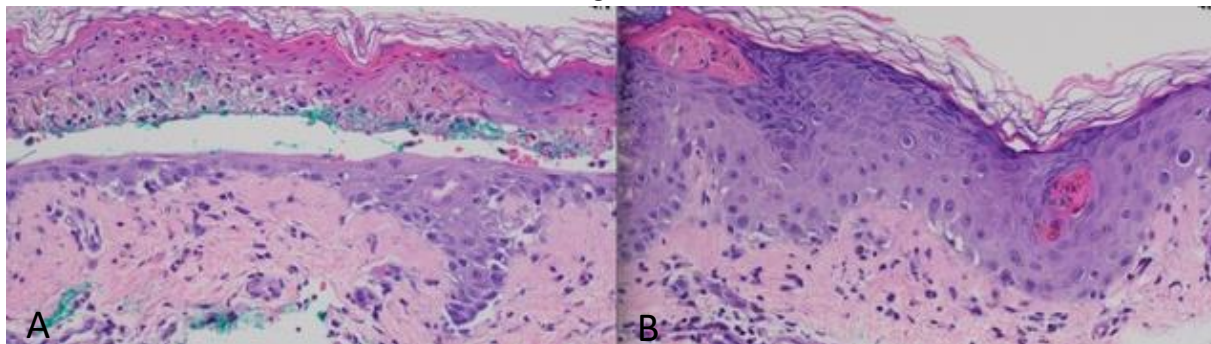


Figure 1: Targetoid papules scattered over the trunk and extremities (B&C) coalescing into eroded plaques on the face with hemorrhagic crusting appreciated on the nares and vermillion lips. Conjunctival injection appreciated (A).

Figure 2: Shave biopsy findings reveal a subtle interface dermatitis with confluent epidermal necrosis and blister formation (A). (B) An interface dermatitis with clumped aggregates of necrotic keratinocytes is redemonstrated (H&E, 20X).

Discussion

- EM is an immune-mediated reaction often precipitated by infections (HSV most often)⁴
- Studies suggest involvement of the Th17/IL-17 immune axis in both EM and candidal infections^{1,2,5,6}
- COVID-19 infection and vaccination have also been associated with altered Th17/IL-17 responses^{1,2}
- Like our case, the only other reported case of recurrent EM associated with COVID-19 infection also suffered from recurrent candida infections³
- We propose IL-17 dysregulation as a potential mechanism for recurrent EM in the setting of COVID-19, a rare immunologic sequela
- Antiviral suppression therapy is currently the first-line treatment for recurrent EM, regardless of trigger^{7,8,9}
- Our patient has not re-flared for 1 year on this regimen, though he has also not contracted COVID-19 again during that time
- Apremilast and JAK-STAT inhibition have been shown to both suppress the IL-17 pathway and be effective for the prevention of recalcitrant recurrent EM^{7,8,9}

Conclusion

- This is the second reported case describing recurrent EM following COVID-19
- It highlights the association with recurrent EM, recurrent candidiasis, and a possible link to IL-17 dysregulation
- Clinicians should know this phenomenon and consider IL-17-targeted therapies for cases refractory to valacyclovir suppressive therapy
- Further research is needed to better understand the mechanisms and potential treatment options for recurrent EM

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