



## LETTER TO THE EDITOR

Medicine Science 2025;14(2):585-6

# Reactive infectious mucocutaneous eruption: A distinct clinical entity in the post-COVID-19 era

 Pelin Hizli

*Balıkesir University, Faculty of Medicine, Department of Dermatology, Balıkesir, Türkiye*

Received 16 April 2025; Accepted 12 May 2025

Available online 01 June 2025 with doi: 10.5455/medscience.2025.04.097

Content of this journal is licensed under a Creative Commons Attribution-NonCommercial-NonDerivatives 4.0 International License.



### Dear Editor,

I am writing this letter to highlight the clinical significance of Reactive Infectious Mucocutaneous Eruption (RIME), an increasingly recognized post-infectious syndrome that remains underdiagnosed, particularly in adult patients. Given its overlapping features with severe mucocutaneous conditions such as Stevens-Johnson syndrome (SJS), timely identification of RIME is crucial for appropriate management and prevention of unnecessary interventions. This correspondence aims to summarize current knowledge on RIME and emphasize the importance of a multidisciplinary approach in its diagnosis and treatment.

RIME is a relatively newly defined clinical entity characterized by inflammation of two or more mucosal membranes following a respiratory infection. The term was proposed to replace Mycoplasma pneumoniae-induced rash and mucositis (MIRM), as similar clinical presentations have been associated with a broad range of infectious pathogens beyond Mycoplasma pneumoniae, including Chlamydia pneumoniae, enteroviruses, influenza B virus, and Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1,2].

Clinically, RIME is defined by mucositis predominantly affecting the oral, ocular, and urogenital areas. Lesions typically manifest as erosions, ulcers, crusting, and, in some cases, vesiculobullous eruptions. Skin involvement is usually minimal or absent; when present, it often appears as erythematous macules or targetoid lesions. Infrequently, patients may present with isolated

mucosal disease or atypical involvement of fewer mucosal sites accompanied by more prominent cutaneous findings [1].

Oral lesions commonly present as hemorrhagic crusts on the lips and erosions on the buccal and lingual mucosa. Ocular symptoms may include conjunctival hyperemia and irritation. Genital involvement is reported in both sexes, presenting as vesicles, erosions, or ulcers affecting the glans penis, penile shaft, scrotum, vulva, or vagina. In severe cases, chronic sequelae such as vulvovaginal adhesions and scarring may occur if left untreated [3].

While RIME predominantly affects children and adolescents, adult cases have also been reported, albeit rarely. Awareness of this condition in older patients is crucial to avoid misdiagnosis, particularly with drug-induced mucocutaneous syndromes such as Stevens-Johnson syndrome (SJS) [4].

Diagnosis is based primarily on clinical findings and recent history of respiratory illness. Laboratory testing may reveal elevated acute-phase reactants. Serologic or polymerase chain reaction (PCR) testing for Mycoplasma pneumoniae, as well as screening for respiratory viruses and herpes simplex virus, is commonly recommended. Skin biopsy is rarely necessary but may reveal histopathologic changes similar to those seen in SJS/toxic epidermal necrolysis (TEN), including keratinocyte necrosis and subepidermal blistering [1,5].

The differential diagnosis of RIME includes SJS, erythema multiforme, herpetic gingivostomatitis, hand-foot-and-mouth disease, and Kawasaki disease. RIME can be differentiated by

### CITATION

Hizli P. Reactive infectious mucocutaneous eruption: A distinct clinical entity in the post-COVID-19 era. Med Science. 2025;14(2):585-6.



**Corresponding Author:** Pelin Hizli, Balıkesir University, Faculty of Medicine, Department of Dermatology, Balıkesir, Türkiye  
Email: [pelinhizli@gmail.com](mailto:pelinhizli@gmail.com)

its stronger mucosal predominance, milder systemic course, younger patient profile, and association with infectious rather than pharmacologic triggers [2].

No standardized treatment protocol exists for RIME. Current management is supportive and includes hydration, nutritional support, pain control, and mucosal protection. In patients with extensive mucosal involvement, systemic corticosteroids (1 mg/kg/day of prednisone or methylprednisolone for 5–7 days) may be considered. While corticosteroid use remains controversial, some reports suggest that early administration may hasten recovery. Antibiotics are often used to treat the underlying infection, but their direct effect on mucocutaneous healing is uncertain. In selected refractory cases, treatments such as intravenous immunoglobulin (IVIG), cyclosporine, or Tumor necrosis factor (TNF- $\alpha$ ) inhibitors have been used. Among these, cyclosporine has been associated with reduced hospitalization duration in MIRM patients, although data remain limited [5].

RIME generally follows a self-limited course with excellent prognosis. However, recurrence may occur in up to 8% of patients, and long-term complications such as scarring and pigmentary changes have been reported [3].

In conclusion, Reactive Infectious Mucocutaneous Eruption is an increasingly recognized condition in clinical practice, especially in the post-coronavirus disease 2019 (COVID-19) era. Awareness of its clinical features is essential for timely diagnosis and management. Given its potential overlap with more severe dermatologic emergencies, further studies are warranted to

elucidate its pathogenesis, optimize treatment strategies, and clarify long-term outcomes.

We believe that RIME is a condition that requires a multidisciplinary clinical approach, involving dermatology, pediatrics, infectious diseases, and emergency medicine. For this reason, we found it appropriate to share this current overview to contribute to raising awareness and encouraging collaboration across specialties.

#### **Conflict of Interests**

*The authors declare that there is no conflict of interest in the study.*

#### **Financial Disclosure**

*The authors declare that they have received no financial support for the study.*

## **References**

1. Canavan TN, Mathes EF, Frieden I, Shinkai K. Mycoplasma pneumoniae-induced rash and mucositis as a syndrome distinct from Stevens-Johnson syndrome and erythema multiforme: a systematic review. *J Am Acad Dermatol.* 2015;72:239-45.
2. Ryder CY, Pedersen EA, Mancuso JB. Reactive infectious mucocutaneous eruption secondary to SARS-CoV-2. *JAAD Case Rep.* 2021;18:103-5.
3. Prindaville B, Newell BD, Nopper AJ, Horii KA. Mycoplasma pneumoniae-associated mucocutaneous disease in children: dilemmas in classification. *Pediatr Dermatol.* 2014;31:670-5.
4. Alawad S, Alsaeed N, Burnette B, et al. Reactive infectious mucocutaneous eruption (RIME) in an adult male with mycoplasma pneumoniae: a case report. *Cureus.* 2025;17:e78301.
5. Li HO, Colantonio S, Ramien ML. Treatment of mycoplasma pneumoniae-induced rash and mucositis with cyclosporine. *J Cutan Med Surg.* 2019;23:608-12.