

Case Report

A Rare Case of Reactive Infectious Mucocutaneous Eruption Triggered by *Mycoplasma Pneumoniae*

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Abstract

Reactive infectious mucocutaneous eruption (RIME) is a rare syndrome characterized by mucosal and cutaneous involvement secondary to an underlying infection. This report describes a case of a 24-year-old male who presented with fever, cough, congestion, sore throat, conjunctivitis, and fatigue. Initial evaluation revealed elevated inflammatory markers and Mycoplasma infection. Following hospitalization, the patient developed severe irritation and lesions involving the oral, ocular, and genital mucosa, consistent with RIME. Management included azithromycin and supportive care. The patient initially presented to a community hospital, but due to limited availability of dermatology, ophthalmology, and urology consultation services, he was transferred to a tertiary care facility for further specialized care. This case highlights the importance of recognizing RIME in the context of infectious triggers and provides insights into its clinical management and outcomes.

INTRODUCTION

Reactive infectious mucocutaneous eruption (RIME) is an immune-mediated disorder often associated with infections, most commonly *Mycoplasma pneumoniae* [1]. RIME is considered a severe adverse mucocutaneous reaction, distinguished by the presence of painful erosions or ulcerations of mucosal surfaces and variable skin involvement [2]. Early diagnosis and appropriate treatment are essential to prevent complications and improve outcomes. This case report explores a unique presentation of RIME in a young adult male, emphasizing the diagnostic approach and therapeutic considerations.

CASE PRESENTATION

A 24-year-old male with a history of attention deficit hyperactivity disorder presented to the emergency department with a 5-day history of cough, congestion, fever, headache, and fatigue. Three days prior to admission, he developed sore throat, red eyes, watery eye drainage, dry lips, dysphagia, and dysuria. The patient's COVID-19 test performed at an urgent care center was negative.

On examination, he appeared well-developed and nourished, with visible lesions around the mouth and erythematous conjunctivae bilaterally. Pupils were

equal, round, and reactive to light. Throat examination revealed an erythematous oropharynx. Laboratory evaluation demonstrated elevated white blood cell count, neutrophils, and lymphocytes. A chest X-ray suggested acute pneumonia. *Mycoplasma pneumoniae* infection was confirmed via microbiological testing [3].

The patient was started on azithromycin due to poor tolerance of doxycycline and received Polytrim eye drops for conjunctivitis. He was admitted for observation. During hospitalization, he developed worsening irritation and erosions involving the perioral region, eyelids, lips, and genital mucosa. He denied any history of recent sexual contact. Based on clinical findings and the confirmed infection, a diagnosis of RIME was established.

Further stay in the hospital revealed worsening of penile lesions, which caused extreme discomfort while urinating. After consultations with infectious disease and urology specialists, a new treatment plan was implemented. He was given lidocaine jelly before urination at the site of the penile lesion and external urethral orifice to reduce pain while urinating, followed by triamcinolone 0.1% ointment for the penile lesion to help resolve the lesion that partially blocked his urethral orifice. Lastly, azithromycin was increased to 500 mg on the first day, then 250 mg IV daily.

Due to the need for further consultations with dermatology, ophthalmology, and urology-services that were limited at the initial presenting facility-the patient was transferred to a tertiary center where supportive care and management continued until symptom resolution.

DISCUSSION

RIME is a rare condition primarily associated with *Mycoplasma pneumoniae* infections [1]. It is characterized by immune-mediated mucosal inflammation and cutaneous manifestations. This patient's presentation aligns with hallmark features of RIME, including mucosal involvement and systemic symptoms triggered by infection. While the pathophysiology remains incompletely understood, it is hypothesized that molecular mimicry and immune dysregulation play pivotal roles [4].

The differential diagnosis for this case included Stevens-Johnson syndrome (SJS), erythema multiforme, and other drug-related hypersensitivity reactions. However, the absence of recent medication use and the characteristic distribution of mucosal lesions supported the diagnosis of RIME [5].

Management of RIME involves addressing the underlying infection and providing symptomatic relief. In this case, azithromycin was used due to its efficacy against *Mycoplasma pneumoniae* [3]. Supportive care, including eye drops and emollients, was essential for alleviating mucosal irritation. Early recognition and intervention are crucial to mitigate potential complications such as secondary infections or scarring.

CONCLUSION

This case underscores the importance of considering RIME in patients with mucocutaneous lesions and systemic symptoms associated with *Mycoplasma pneumoniae*.

Prompt diagnosis and targeted therapy are critical for favorable outcomes. Further research is needed to better understand the immunopathogenesis and optimize management strategies for RIME.

LIMITATIONS

1. The diagnosis of RIME was based on clinical findings and microbiological evidence, but histopathological confirmation was not performed.
2. Long-term follow-up data were unavailable to assess potential chronic sequelae or recurrences.
3. Limited therapeutic options were explored in this case; additional studies are needed to evaluate alternative treatments.

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