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Case Report

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Mycoplasma Pneumoniae-Induced Rash and Mucositis (MIRM) in a Pediatric Patient: A Case Report and Review of Clinical Management

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ABSTRACT

Background: Mycoplasma pneumoniae-induced rash and mucositis (MIRM) is a mucocutaneous eruption occurring primarily in pediatric patients in response to Mycoplasma pneumoniae infection. Although often confused with Stevens-Johnson syndrome (SJS) or erythema multiforme (EM), MIRM is distinguished by specific clinical and serological findings and requires a distinct treatment approach.

Case Presentation: A previously healthy 9-year-old child presented with a high fever of 40°C, painful oral ulcers, and atypical target-like lesions on the extremities following a respiratory infection initially diagnosed as pharyngitis. Despite initial antibiotic treatment, mucosal and cutaneous symptoms developed, characterized by mouth ulcers with hemorrhagic crusting and papulo-erythematous lesions on the extremities. A chest X-ray demonstrated mild airway inflammation, and laboratory results showed elevated acute-phase proteins and Mycoplasma pneumoniae IgM and IgG levels. The diagnosis of MIRM was established, and treatment included intravenous steroids, antibiotics (ceftriaxone and azithromycin), and supportive care. The child's condition improved gradually with complete resolution of symptoms.

Conclusion: This case underscores the importance of differentiating MIRM from other mucocutaneous disorders to ensure appropriate diagnosis and treatment in pediatric patients presenting with respiratory symptoms and characteristic mucocutaneous lesions.

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Case Presentation

A previously healthy 9-year-old boy presented to our clinic with a history of high fever (up to 40°C), painful mouth ulcers, and atypical target-like skin lesions on his extremities. Eight days prior, he developed a cough and was diagnosed with pharyngitis, for which he received antibiotics. Two days after antibiotic administration, the child developed painful oral ulcers, initially appearing as blood-filled blisters, and subsequently developed erythematous papules on his hands and feet. Despite supportive care, his fever recurred, prompting hospital admission. On examination, the child was afebrile, with notable hemorrhagic crusts in the oral cavity and scattered asymptomatic erythematous papules and atypical target lesions on the extremities. (Figure 1, 2, 3). Pulmonary auscultation revealed vesicular breath sounds with bilateral wheezing and occasional rales.

Chest X-ray imaging displayed emphasis on Bronchovascular Structures Laboratory evaluation indicated elevated leukocyte count (11.5 K/uL) and mildly increased acute phase proteins (1.07 mg/dL). Serology confirmed elevated Mycoplasma pneumoniae IgM and IgG levels (>200), guiding the diagnosis toward MIRM.

Treatment included intravenous corticosteroids, ceftriaxone, azithromycin, and supportive measures such as pain management and parenteral fluids. Over the following days, the patient's condition improved, with resolution of mucocutaneous lesions and normalization of laboratory parameters.

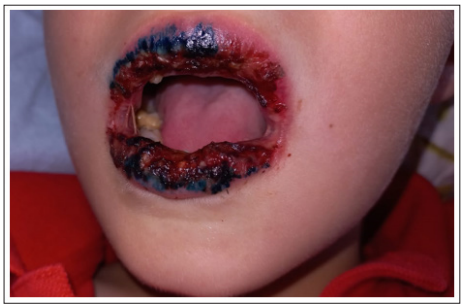

Figure 1: Erosions, Ulcers, and Hemorrhagic Crusts on the Oral Mucosa

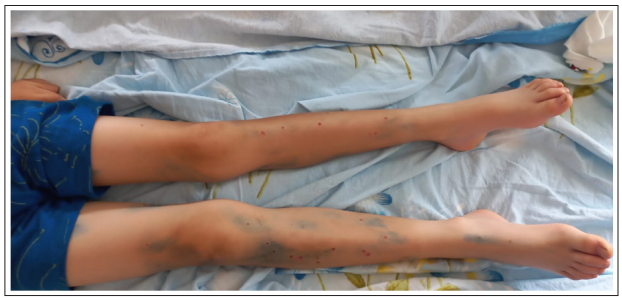

Figure 2: Scattered Erythematous Papules and Atypical Target Lesions Distributed on the Lower Limb

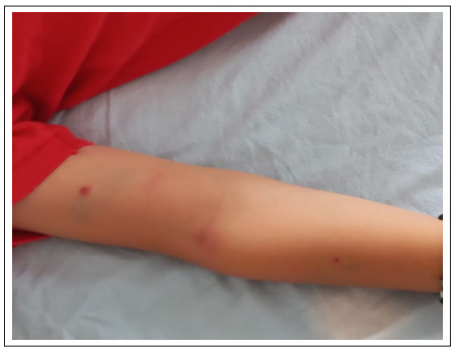

Figure 3: Scattered Erythematous Papules on the Arms

Discussion

MIRM is increasingly recognized as a distinct clinical entity within the spectrum of RIME (Reactive Infectious Mucocutaneous Eruptions), specifically triggered by Mycoplasma pneumoniae infection in pediatric populations. Differentiating MIRM from other severe mucocutaneous reactions, such as SJS or EM, is essential due to differences in etiology, prognosis, and management strategies. Unlike SJS, which is often drug-induced and presents with extensive skin detachment, MIRM is associated with infection and presents more frequently with limited cutaneous involvement and significant mucositis [1,2].

The pathophysiology of MIRM remains under investigation, though it is hypothesized that Mycoplasma pneumoniae triggers an immune-mediated response involving both mucosal and skin surfaces. MIRM primarily affects mucosal sites and presents with oral, ocular, and sometimes genital erosions, with a relatively mild skin presentation, often limited to the extremities [3]. In this case, the patient's history of respiratory infection, along with characteristic oral and cutaneous findings and elevated M. pneumoniae IgM and IgG levels, supported the diagnosis of MIRM rather than SJS or EM [4,5].

Management of MIRM is centered on supportive care and infection control. Corticosteroids have been utilized to reduce inflammation in cases with prominent mucosal involvement, while antibiotics such as azithromycin are crucial for addressing the underlying M. pneumoniae infection [6,7]. In this case, the combined treatment approach led to clinical improvement and symptom resolution, underscoring the benefit of corticosteroids in managing severe mucosal symptoms associated with MIRM.

Conclusion

This case highlights the importance of recognizing MIRM as a separate entity from other mucocutaneous syndromes, particularly in pediatric patients presenting with respiratory infections and characteristic mucosal lesions. Early diagnosis and appropriate management of MIRM, including corticosteroid and antibiotic therapy, can reduce symptom severity and improve patient outcomes.

References

1. Canavan TN, Mathes EF, Frieden IJ, Shinkai K (2015) Mycoplasma pneumoniae-induced rash and mucositis as a syndrome distinct from Stevens-Johnson syndrome and erythema multiforme: a systematic review. J Am Acad Dermatol 72: 239-245.
2. Johnson J, Rasmussen JE (2005) Mycoplasma pneumoniae infection and its mucocutaneous complications. Dermatol Clin 23: 501-507.
3. Sbrana A, Brunetti I, Bellini V (2022) A case report of Mycoplasma pneumoniae-induced rash and mucositis in a child. BMC Pediatr 22: 143.
4. Pitarch G, Martín Rodrigo AI, Alcántara Payán V (2020) Differentiating Mycoplasma pneumoniae-induced mucositis from Stevens-Johnson syndrome in children. Eur J Pediatr 179: 1113-1120.
5. Zong Y, Liu Y, Zhao Y (2021) Clinical and serological analysis of Mycoplasma pneumoniae infection with mucocutaneous eruptions. J Dermatol 48: 1401-1409.
6. García-Suárez J (2018) Immune mechanisms in RIME and therapeutic interventions. Pediatr Infect Dis J 37: 542-547.
7. Tartari CJ, El Mallakh P (2019) Corticosteroids and antibiotics in the treatment of Mycoplasma pneumoniae-associated mucositis. Curr Opin Infect Dis 32: 165-171.