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IMAGES IN EMERGENCY MEDICINE

Pediatrics, dermatology

Child with fever, rash, and abnormal gait

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PRESENTATION

A 21-month-old Caucasian male presented to the emergency department with 3 months of fever, rash, and abnormal gait. He first developed intermittent fever that progressed to daily high-spiking fevers for a 1-month duration before presentation. Erythematous maculopapular lesions progressed from his nose, forehead, cheeks, to his hands. He had difficulty walking up stairs and moved "like an old man" when sitting and getting up from the floor. Examination revealed erythematous papules over the metacarpophalangeal (MCP) and proximal interphalangeal joints (PIP) with nailbed erythema and diffuse non-pitting edema in his hands (Figure 1). Gait was stiff and antalgic without limping. Laboratory studies showed mild leukopenia (white blood count 4×10^9 cells/L), anemia (hemoglobin 10.2 g/dL), and an elevated erythrocyte sedimentation rate (25 mm/h). C-Reactive protein and creatine kinase were normal.

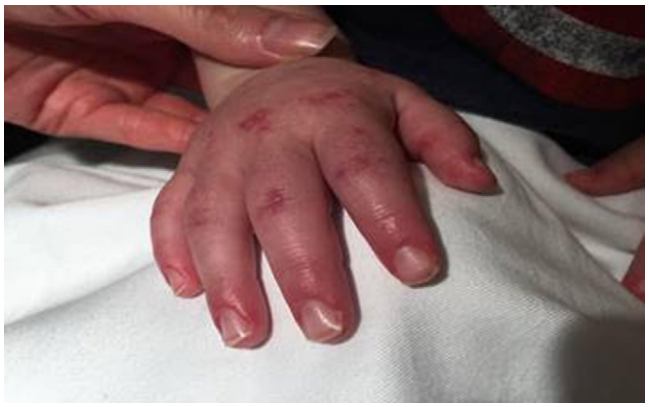

FIGURE 1 Erythema and papules on dorsal MCP and PIP joints of right hand (Gottron's papules). Mild, diffuse soft tissue swelling of the hands and fingers and nailbed erythema is also seen

DIAGNOSIS

Juvenile dermatomyositis

Additional evaluation by pediatric rheumatology showed myositis (aspartate aminotransferase 863 units/L, alanine aminotransferase 338 units/L, lactate dehydrogenase 731 units/L, and aldolase 26.3 units/L). Diagnosis of juvenile dermatomyositis was made with evidence of Gottron's papules and symmetric proximal muscle weakness. Myositis antibody testing later revealed positive antibodies against melanoma differentiation-associated protein 5 (MDA-5). Recognition of characteristic skin changes can direct appropriate evaluation to confirm diagnosis and screen for morbid complications.

Possible emergent complications include intestinal perforation,[1,2] or hemorrhage from vasculitis,[3] severe diaphragmatic muscle weakness, dysphagia, and dysphonia leading to respiratory failure or aspiration.[4] Interstitial lung disease can occur and potentially be rapidly progressive, with anti-MDA-5-positive patients at increased risk.[5] Macrophage activation syndrome secondary to juvenile dermatomyositis can also occur. Unlike adults with dermatomyositis, children with juvenile dermatomyositis do not have increased malignancy rates.[6-9] Immunosuppressed patients, and/or those with ulcerative calcinosis are at risk for systemic and opportunistic infection.[10-12]

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REFERENCES

1. Downey EC, Woolley MM, Hanson V. Required surgical therapy in the pediatric patient with dermatomyositis. *Arch Surg*. 1988;123(9):1117-1120.
2. Singh S, Suri D, Aulakh R, Gupta A, Rawat A, Kumar RM. Mortality in children with juvenile dermatomyositis: two decades of experience from a single tertiary care centre in North India. *Clin Rheumatol*. 2014;33(11):1675-1679.
3. Papadopoulou C, McCann LJ. The vasculopathy of juvenile dermatomyositis. *Front Pediatr*. 2018;6:284.
4. McCann LJ, Garay SM, Ryan MM, Harris R, Riley P, Pilkington CA. Oropharyngeal dysphagia in juvenile dermatomyositis (JDM): an evaluation of videofluoroscopy swallow study (VFSS) changes in relation to clinical symptoms and objective muscle scores. *Rheumatology (Oxford)*. 2007;46(8):1363-1366.
5. Kobayashi N, Takezaki S, Kobayashi I, et al. Clinical and laboratory features of fatal rapidly progressive interstitial lung disease associated with juvenile dermatomyositis. *Rheumatology (Oxford)*. 2015;54(5):784-791.
6. Stockton D, Doherty VR, Brewster DH. Risk of cancer in patients with dermatomyositis or polymyositis, and follow-up implications: a Scottish population-based cohort study. *Br J Cancer*. 2001;85(1):41-45.
7. Sigurgeirsson B, Lindelöf B, Edhag O, Allander E. Risk of cancer in patients with dermatomyositis or polymyositis. A population-based study. *N Engl J Med*.1992;326(6):363-367.
8. Rider LG, Katz JD, Jones OY. Developments in the classification and treatment of the juvenile idiopathic inflammatory myopathies. *Rheum Dis Clin North Am*. 2013;39(4):877-904.
9. Rider LG, Nistala K. The juvenile idiopathic inflammatory myopathies: pathogenesis, clinical and autoantibody phenotypes, and outcomes. *J Intern Med*. 2016;280(1):24-38.
10. Marie I, Ménard JF, Hachulla E, et al. Infectious complications in polymyositis and dermatomyositis: a series of 279 patients. *Semin Arthritis Rheum*. 2011;41(1):48-60.
11. Douvoyiannis M, Litman N, Dulau A, Ilowite NT. Panniculitis, infection, and dermatomyositis: case and literature review. *Clin Rheumatol*. 2009;28(suppl 1):S57-S63.
12. Miyamae T, Mori M, Inamo Y, et al. Multi-center analysis of calcinosis in children with juvenile dermatomyositis. *Ryumachi*. 2003;43(3):538-543.

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