Microscopic polyangiitis presenting with persistent cough and hemoptysis in pediatrics: A case report and review

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Abstract

Background:Microscopic polyangiitis (MPA) is a necrotizing vasculitis which involves small- and medium-sized vessels. It is associated with the presence of anti-neutrophil cytoplasmic antibodies with a perinuclear staining pattern (p-ANCA). The kidney and lung are the organs primarily affected. MPA is rare in children, and easily misdiagnosed. In this work we describe a complete course of this disease. Case presentation: An 11-year-old girl with a one-month cough and hemoptysis, showed no improvement after imipenem-cilastatin treatment. P-ANCA, and microscopic haematuria and proteinuria, were positive, and a chest CT revealed an area of shadow in bilateral lower lobes of the lungs. Renal biopsies revealed crescentic glomerulonephritis. MPA was diagnosed based on these observations. The patient showed dramatic clinical and imaging improvement after immunosuppressive treatment. Conclusion: The organs and systems most affected by MPA in children, are the lungs (about 80%), kidneys (about 80%), cutaneous involvement (about 20%), nervous system involvement (about 16%), and gastrointestinal involvement (about 16%). Reasonable care should be taken in examining those patients, while biopsies of the kidney or any other of the organs remain the gold standard for diagnostic purposes. Pulmonary involvement may be the initial symptom of MPA, which is often misdiagnosed as pneumonia and antibiotics are used at the beginning of the disease. Patients with hemoptysis should undergo a comprehensive examination, including urine routine, to determine whether there is renal involvement, and an immunological index detection to determine whether it is an autoimmune disease.

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