Association of *Mycoplasma Pneumoniae* Infection with Henoch-Schonlein Purpura

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Abstract: We present a child with Henoch-Schonlein purpura and *Mycoplasma pneumoniae* infection, an association that was rarely described in the literature. The infection was confirmed serologically and by using PCR.

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Introduction

Henoch-Schonlein purpura, a common vasculitis of childhood, is frequently preceded by an upper respiratory illness. The exposure to the antigen of the infection may trigger the immunological cascade for the disease development. Herein, we present a child with Henoch-Schonlein purpura and infection with *Mycoplasma pneumoniae*, an association that was rarely described in the literature.

A 3-year-old girl was admitted to the hospital because of painful swelling of both ankles, knees and of the right wrist. She had fever up to 39.6 °C and cough one week prior to the admission. Within 24 hours from admission, crops of maculopapular purpuric lesions were developed over the lower extremities and the buttocks and new lesions continued to appear for five consecutive days. The location of the rash, the fact that it was purpuric and non pruritic as well as the involvement of the joints made plausible the clinical diagnosis of Henoch-Schonlein purpura. Immunological investigation showed that IgA levels were normal and anti-nuclear antibodies were negative. However, antibodies to *Mycoplasma pneumoniae* were positive (IgM 25 U/ml, IgG 16 U/ml). Real time PCR of a pharyngeal swab sample was also performed for *Mycoplasma pneumoniae*, and influenza virus H1N1. PCR was positive for *Mycoplasma pneumoniae*. A biopsy of a purpuric lesion was also performed and the findings of the histology were compatible with leukocytoclastic vasculitis. The child was put on clarithromycin. She remained hospitalized for one week and she was discharged with the instruction to take clarithromycin for eight more days and to make urinalysis periodically for 6 months. The girl was re-evaluated at three months time and she was well without any laboratory findings of renal involvement.

Discussion

Henoch-Schonlein purpura is a common vasculitis in children between the ages of 3 and 15 years, but especially in those younger than 10 years of age. As there is no definitive test for the diagnosis of the disease, this has been based on diagnostic criteria. Criteria were established by the American College of Rheumatology in 1990 (Mills et al., 1990) and they were revised by an International Consensus Conference in 2006 (Dillon and Ozen, 2006) and adopted by EULAR in 2008 (Ozen et al., 2010). Our patient fulfilled three criteria (palpable purpura, young age and leukocytoclastic vasculitis) of the American College of Rheumatology and two criteria (palpable purpura and arthritis) of the International Consensus Conference and therefore the diagnosis of Henoch-Schonlein purpura was plausible with either system. She did not develop gastrointestinal or renal disease but these complications occur in 30% and 50% of patients respectively (Reamy et al., 2009) and they are not necessary for the establishment of the diagnosis. Unfortunately, immunofluorescence of the biopsy sample was not performed and therefore histology was used for the diagnosis according only to the initial criteria definition of 1990 as IgA depositions were required for the classification system of 2006.

Henoch-Schonlein purpura is an immune-mediated vasculitis and the formation of immune complexes may be triggered by exposure to an infectious agent or other environmental factors (Reamy et al., 2009). Several infectious agents have been considered as a trigger for the disease with the most commonly being group A streptococcus. In our case *Mycoplasma pneumoniae* seems to be the triggering factor. This is not the first time in the literature that such an association was observed. *Mycoplasma pneumoniae* respiratory infection was described as preceding Henoch-Schonlein purpura in 1974 by Liew and Kessel. However, in that report there was only serological evidence for the *Mycoplasma* infection and the diagnosis of Henoch-Schonlein purpura was based solely on clinical grounds. We believe that our report contributes further to the direction that *Mycoplasma pneumoniae* may trigger an episode of Henoch-Schonlein purpura as the presence of the respective infectious agent was confirmed by PCR.

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