



CASE REPORT

A Case of Human Metapneumovirus Associated with Acute Haemorrhagic Oedema of Infancy

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Abstract

Acute Haemorrhagic oedema of infancy (AHOI) is a cutaneous leukocytoclastic vasculitis, clinically characterized by the acute development of peripheral oedema and targetoid purpuric lesions on the face and extremities [1]. It is commonly associated with Pneumococcal Bacteremia [2], CMV infection [1] and Rotavirus infection [3]. There was a 12-year-old boy who presented to the Emergency department with 2 days history of widespread non-blanching, erythematous, macular rash distributed over his face, chest, abdomen, back and legs; which was noted to gradually increase in size over the course of his illness. Aside from this, he had also experienced coryzal symptoms and mild temperatures. All other blood tests were within normal parameters. A nasopharyngeal aspirate was collected and found to be positive for Human Metapneumovirus. To our knowledge, this is the first reported case of AHOI associated with hMPV.

pruritis or tenderness was apparent. Furthermore, no target lesions, pustules or nodules were evident and the mucous membranes appeared to be spared. Oedema involving both ankles to the knee, was striking and proved to be painful with the child not weight bearing throughout the course of the illness. The remainder of his systemic examination was unremarkable. The rash and oedema were noted to be clinically consistent with Acute Haemorrhagic Oedema of Infancy (AHOI).

A full blood count together with coagulation profile, c reactive protein, liver function tests and iron studies were requested which revealed microcytic, hypochromatic erythrocytes and a low ferritin consistent with iron deficiency anaemia. All other blood tests were within normal parameters. A nasopharyngeal aspirate was collected and found to be positive for Human Metapneumovirus.

Case Report

A 2-year-old boy presented to the Emergency Department with a 2-day history of widespread non-blanching, erythematous, macular rash distributed over his face, chest, abdomen, back and legs; which was noted to gradually increase in size over the course of his illness. Aside from this, he had also experienced coryzal symptoms and mild temperatures. He had been fully immunised and had no history of allergies.

On examination, the rash was evident over the male child's face, chest, abdomen, back, lower limbs and his palms and soles. The rash was noted to be warm, well demarcated and palpable with an irregular shape. No

Over the course of the next two days, the rash was noted to fade rapidly together with a marked reduction in lower limb oedema. Antihistamines and Non-steroidal anti-inflammatories were used to manage his discomfort.

Review

Human Metapneumovirus (hMPV) is a newly identified respiratory pathogen in 2001 causing a spectrum of illness ranging from asymptomatic carrier states to severe bronchiolitis [4]. 96% of hMPV positive children are under 6 years of age [4].

Aside from Bronchiolitis, hMPV has also been im-

plied in cases of acute otitis media in children [5] and encephalitis [6]. hMPV causes illness throughout the year, but peak activity occurs during winter and spring nearly simultaneously with respiratory syncytial virus (RSV) and seasonal influenza [7].

Acute Haemorrhagic oedema of infancy (AHOI) is a cutaneous leukocytoclastic vasculitis, clinically characterized by the acute development of peripheral oedema and targetoid purpuric lesions on the face and extremities [1]. Snow first described acute hemorrhagic edema of infancy (AHOI) as a cutaneous variant of Henoch-Schönlein purpura (HSP) in the United States in 1913 [8]. AHOI has also previously been associated with Pneumococcal Bacteremia [2], CMV infection [1] and Rotavirus infection [3].

Conclusion and Practice Implications

Acute haemorrhagic oedema of infancy (AHOI) is a relatively uncommon form of leukocytoclastic vasculitis that typically presents from 4 months of age to 2 years [9,10]. Its presentation in this case together with Human Metapneumovirus (hMPV) however, is most unusual.

AHOI was once considered a variant of Henoch-Schönlein Purpura (HSP) but today is recognized as a distinct entity [9,11]. HSP, however, is still the primary differential diagnosis to be considered. Characteristics that distinguish the conditions include age of onset, which is younger for AHOI than for HSP (peak age of 4 to 7 years) and cutaneous manifestations; with raised purpura on the extensor surfaces of the legs and buttocks present predominantly in HSP. In contrast, the larger erythematous purpura of AHOI, are found predominantly on the face and extremities. Oth-

er diagnoses to be considered are meningococemia, erythema multiforme and child abuse.

To our knowledge, this is the first reported case of AHOI associated with hMPV infection.

References

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