CLINICAL CHARACTERISTICS OF CHILDREN WITH VIRAL SINGLE- AND CO-INFECTIONS AND A PETECHIAL RASH

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Background: Children with petechial rash are more likely to undergo invasive diagnostics, to be treated with antibiotics for potential bacterial infection and be hospitalized. However, viruses have also been associated with petechial rash. Nonetheless, a systematic analysis of viral infections with modern available techniques as quantitative real time polymerase chain reaction (q-PCR) in the context of petechial rash is lacking. The purpose of this study was to prospectively uncover viral pathogens that may promote the emergence of petechiae in children and analyse the correlation with the clinical characteristics and course.

Methods: We conducted a prospective study in children (0 to 18 years) presenting with petechiae and suspected infection at the emergency department between November 2009 and March 2012. In nasopharyngeal aspirates the following viruses were analysed by q-PCR: Cytomegalovirus, Epstein-Barr virus, parvovirus B19, Influenza A and B, parainfluenza viruses, human respiratory syncytial virus A and B, human metapneumovirus, rhinovirus, enterovirus, adenovirus, human coronavirus OC43, 229E, NL63 and human bocavirus.

Results: A viral pathogen was identified in 67% of the analysed 58 cases with petechial rash. Virus positive patients showed a significant higher incidence of lower respiratory tract infections. Forty-one percent were viral co-infections, which were significantly younger than virus negative patients, had a higher leukocyte count and were longer hospitalized.

Conclusions: A petechial rash is frequently caused by viral single- and co-infections and can rapidly be identified via q-PCR. The specific role of viral pathogens in children with a petechial rash has further to be clarified in future studies.