



The Clinical Impact Of Respiratory Syncytial Virus A(H1N1)pdm09 in Children

Makoto Enomoto¹, Yuko Hotta¹, Yuri Momose¹, Tetsuo Kase², Satoshi Kusuda³ and Toshiyuki Seto^{1,4*}

¹ Department of Pediatrics, Kashiwara Municipal Hospital, Kashiwara, Japan

² Department of Public Health, Osaka City University Graduate School of Medicine, Osaka, Japan

³ Department of Pediatrics, Kyorin University School of Medicine, Tokyo, Japan

⁴ Department of Pediatrics, Osaka City University Graduate School of Medicine, Osaka, Japan

*Corresponding e-mail: setoi@med.osaka-cu.ac.jp

LETTER TO EDITOR

Influenza A(H1N1)pdm09 caused a deadly pandemic in 2009, replaced the seasonal influenza A(H1N1) virus that circulated prior to 2009, and still causes a serious infectious disease among children and adults [1]. In addition, Respiratory syncytial virus (RSV) infection remains a clinical burden on young children even though palivizumab has been effectively used for high-risk infants [2]. To compare the clinical impact of RSV infection with that of influenza in children, we retrospectively studied 2,375 children who presented to a hospital outpatient clinic between 2008 and 2010 with fever and/or symptoms of respiratory tract infection. The clinical aspects of RSV infection were compared with those of A(H1N1)pdm09 infection. After the influenza A(H1N1)pdm09 pandemic, 591 patients were diagnosed with influenza (Group 1), whereas 54 patients were diagnosed with RSV infection (Group 2). Before the pandemic, 203 patients were diagnosed with seasonal influenza (Group 3). All infections were diagnosed by using the rapid immunochromatography test, in which, prior to the pandemic, a positive test indicated seasonal influenza A(H1N1) exposure. However, during and after the pandemic, a positive test result suggested A(H1N1)pdm09 infection, which was confirmed by RT-PCR analysis of the sample and local etiological studies. In group 1, 31 children (average age 7.7 years, 5% of outpatients) required hospitalized for complications of the respiratory system (52%), central nervous system (16%), gastroenterological system (10%), and not specified (22%). In group 2, 33 children (average age 2.2 years, 60% of outpatients) were hospitalized, 27% of whom were administered oxygen and 12% intravenous steroids. In group 3, 33 children (average age 6.8 years, 3% of outpatients) were hospitalized.

Ten years after the pandemic, A(H1N1)pdm09 is circulating as seasonal influenza and continues to pose a relatively high risk of acute-phase encephalopathy in children [3]. Accordingly, pediatricians must be attentive to such complications. Anti-influenza drugs, including a new anti-endonuclease inhibitor (Baloxavir Marboxil), are therapeutic options. However, our study showed a much higher risk of hospitalization and the need for treatment for respiratory failure in very young, previously healthy children with RSV infection than those with A(H1N1)pdm09 infection. Palivizumab was approved for prophylaxis against RSV infection in the United States in 1998 and has been used in Japan since 2002. Nevertheless, our results showed that RSV infection presents a greater burden than A(H1N1)pdm09 infection among children. This study is the first to report that RSV infection has a more serious impact on young children than A(H1N1)pdm09 infection from the viewpoint of the local general hospital. The seasonality of the epidemic RSV in Japan has changed recently [4]. We must pay attention to such changes and consider modifying the scheduling of palivizumab administration. Moreover, underlying diseases in pediatric patients must be taken into account. It is time to update the recommendations and use of palivizumab against “seasonless” RSV, especially for high-risk patients [5].

DECLARATIONS

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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