


[Home](#) > [Journal](#) > [Medicine & Healthcare](#) > [OJRD](#)
[Indexing](#) | [View Papers](#) | [Aims & Scope](#) | [Editorial Board](#) | [Guideline](#) | [Article Processing Charges](#)
[OJRD](#) > [Vol.2 No.4, November 2012](#)


Do Circulating RSV-Genotypes Affect Established Biennial Epidemic Periodicity in Zagreb Region?

PDF (Size: 276KB) PP. 91-94 DOI: 10.4236/ojrd.2012.24013

Author(s)

Gordana Mlinaric-Galinovic, Dubravko Forcic, Jelena Ivancic-Jelecki, Gordana Vojnovic, Jadranka Bozikov, Robert C. Welliver

ABSTRACT

Objective: The biennial epidemic pattern of respiratory syncytial virus (RSV) circulation in Croatia has been preserved and could not be related to climatic factors and the predominant RSV subtypes. The possibility that the circulation of different RSV genotypes affect the outbreak cycle in children in Croatia (Zagreb region) over a period of 3 consecutive years was explored in the paper. **Methods:** The study group consisted of inpatients, aged 0-10 years, who were hospitalized with acute respiratory tract infections caused by RSV, in Zagreb, over the period from 1 January 2006 to 31 December 2008. The virus was identified in the nasopharyngeal secretion using direct immunofluorescence method. The virus subtype and genotype was determined by real-time PCR and sequence analysis, respectively. **Results:** RSV infections identified in 731 children. RSV subtype A caused 399 infections, and subtype B 332. Two subtype A genotypes (NA1 and GA5) and three subtype B genotypes (BA7, BA9 and BA10) were found. During persistent RSV biennial cycles namely four succeeding outbreaks, the new genotype from the previous smaller outbreak persevered into the upcoming larger outbreak. **Conclusion:** Our molecular-epidemiology study of RSV subtypes and genotypes during calendar months demonstrates that the biennial RSV cycle cannot be fully explained by the dynamic of the predominant circulating genotype of RSV. Other unknown factors account for the biennial cycle of RSV epidemics in Croatia.).

KEYWORDS

Biennial Cycle; Respiratory Syncytial Virus Types A and B; Genotypes

Cite this paper

G. Mlinaric-Galinovic, D. Forcic, J. Ivancic-Jelecki, G. Vojnovic, J. Bozikov and R. Welliver, "Do Circulating RSV-Genotypes Affect Established Biennial Epidemic Periodicity in Zagreb Region?," *Open Journal of Respiratory Diseases*, Vol. 2 No. 4, 2012, pp. 91-94. doi: 10.4236/ojrd.2012.24013.

References

- [1] G. Mlinaric-Galinovic, et al., "The Biennial Cycle of Respiratory Syncytial Virus Outbreaks in Croatia," *Virology Journal*, Vol. 5, No. 1, 2008, pp. 18-22. doi:10.1186/1743-422X-5-18
- [2] G. Mlinaric-Galinovic, et al., "Does the Viral Subtype Influence the Biennial Cycle of Respiratory Syncytial Virus?" *Virology Journal*, Vol. 6, No. 1, 2009, pp. 133-139. doi:10.1186/1743-422X-6-133
- [3] E. Terletskaia-Ladwig, et al., "Defining the Timing of Respiratory Syncytial Virus (RSV) Outbreaks: An Epidemiological Study," *BMC Infectious Diseases*, Vol. 5, 2005, No. 1, pp. 20-27. doi:10.1186/1471-2334-5-20
- [4] R. Berner, et al., "Community and Nosocomially Acquired Respiratory Syncytial Virus Infection in a German Paediatric Hospital from 1988 to 1999," *European Journal of Pediatrics*, Vol. 160, No. 9, 2001, pp. 541-547. doi:10.1007/s004310100801
- [5] A. Duppenhaler, et al., "Two-Year Periodicity of Respiratory Syncytial Virus Epidemics in Switzerland," *Infection*, Vol. 31, No. 2, 2003, pp. 75-80. doi:10.1007/s15010-002-3124-8
- [6] S. W. Aberle, et al., "Biennial Spring Activity of Human Metapneumovirus in Austria," *Pediatric*

[OJRD Subscription](#)
[Most popular papers in OJRD](#)
[About OJRD News](#)
[Frequently Asked Questions](#)
[Recommend to Peers](#)
[Recommend to Library](#)
[Contact Us](#)

Downloads:	5,319
Visits:	33,085

[Sponsors >>](#)

- [7] G. Mlinaric-Galinovic, et al., "Eleven Consecutive Years of Respiratory Syncytial Virus Outbreaks in Croatia," *Pediatrics International*, Vol. 51, No. 2, 2009, pp. 237-240. doi:10.1111/j.1442-200X.2008.02723.x
- [8] G. Mlinaric-Galinovic, et al., "Znacajke Javljanja Epidemije Respiratornim Sincicijskim Virusom U Sezoni 2006/7 U Zagreba?koj ?upaniji," *Paediatrica Croatica*, Vol. 53, No. 2, 2009, pp. 49-52.
- [9] G. Mlinaric-Galinovic et al., "Analysis of Biennial Outbreak Pattern of Respiratory Syncytial Virus According To Subtype (A and B) in the Zagreb Region," *Pediatrics International*, Vol. 54, No. 3, 2012, pp. 331-335. doi:10.1111/j.1442-200X.2011.03557.x
- [10] K. T. Zlateva, et al., "Subgroup Prevalence and Genotype Circulation Patterns of Human Respiratory Syncytial Virus in Belgium during Ten Successive Epidemic Seasons," *Journal of Clinical Microbiology*, Vol. 45, No. 9, 2007, pp. 3022-3030. doi:10.1128/JCM.00339-07
- [11] Y. Shobugawa, et al., "Emerging Genotypes of Human Respiratory Syncytial Virus Subgroup A among Patients in Japan," *Journal of Clinical Microbiology*, Vol. 47, No. 8, 2009, pp. 2475-2482. doi:10.1128/JCM.00115-09
- [12] D. Forcic, et al., "A Study of the Genetic Variability of Human Respiratory Syncytial Virus in Croatia, 2006-2008," *Journal of Medical Virology*, Vol. 84, No. 12, 2012, pp. 1985-1992.
- [13] N. L. Goddard, et al., "Timing of Monoclonal Antibody for Seasonal RSV Prophylaxis in the United Kingdom," *Epidemiology and Infection*, Vol. 135, No. 1, 2007, pp. 159-162. doi:10.1017/S0950268806006601