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Palivizumab prophylaxis in the infants with congenital heart disease: A controlled study from Turkey

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Background and Aim: Lower respiratory tract infections (LRTI) multiply morbidity and mortality within patients with significant congenital heart disease (CHD). For respiratory syncytial virus (RSV), one of the most important pathogens, immunoprophylaxis with palivizumab has successfully been introduced. In this retrospective case controlled study, we aimed to investigate efficacy of palivizumab with comparing the patients who had palivizumab prophylaxis with the ones who did not have.

Material and Method: In this retrospective case controlled study demographic, clinical and household characteristics, respiratory tract infections, hospitalization, morbidity and mortality rates of patients who had RSV prophylaxis (Group 1, n:92) between 2010-2012 period, were compared with the patients who did not take prophylaxis (Group 2, n:95), 2009-2010 period in 2 RSV seasons.

Results: LRTI rates of patients who had prophylaxis compared to ones who did not have (15.2% vs 44.7%; $p<0.001$), LRTI related hospitalization (9.8% vs 39.4%; $p<0.001$), complicated LRTI (3.2% vs 11.6%; $p:0.029$), ICU need for LRTI (3.2% vs 10.5%; $p:0.046$) was statistically significant in Group 1. Most common cause LRTI was found to be RSV. Mortality rate was low in Group 1 (4.3% vs 8.4%) but not statistically significant ($p:0.254$). Independent risk factors for hospital admission in Group 1 was detected as under the weight centile <10rd (5.8 times) and associated chromosomal anomaly (Down syndrome etc) (4 times); in group 2 was congestive heart failure (8.6 times) and number of siblings at home (<11 years of age, 3.4 times).

Conclusion: This report is the first infant palivizumab efficacy report of Turkey. It was shown that palivizumab prophylaxis decreased hospitalization of patients with CHD, related complications and ICU admission rate. But further prospective, multicentered randomized, pharmaco-economic studies were required.

Characteristics and hospitalization features of the patients who had LRTI admissions in RSV season		Group 1 (n=92)	Group 2 (n=95)	P	Relative Reduction (%)
The rate of LRTI in the viral season	1x	14, %15.2	42, %44.7	<0.001	66
	2x	1, %1.1	6, %6.4	<0.001	83
	3x	1, %1.1	-	-	
Hospitalization rate associated with LRTI in the RSV season	1x	9, %9.8	37, %39.4	<0.001	75
	2x	1, %1.1	2, %2.2	0.999	50
Complicated LRTI		3, %3.2	11, %11.6	0.029	72
ICU admission associated with LRTI		3, %3.2	10, %10.5	0.046	70
Exitus associated with LRTI		4, %4.3	8, %8.4	0.256	49
Days of Hospitalization due to LRTI		6.5 (5.0-18.0)	8.0 (5.0-13.0)	0.951	19
Days of ICU stay		4.0 (2.0-6.0)	8.0 (1.0-11.0)	0.727	50

Values are expressed as n (%) or median, LRTI: Lower respiratory tract infection, ICU: Intensive care unit.