

Conclusion: NAIs were frequently prescribed among cancer patients, but less than a third received treatment within 48 hours of symptom onset. Most were prescribed NAIs only after test results were available, while antibiotics were prescribed empirically. Delayed presentation to care is an obstacle to early NAI use; patient and provider education along with rapid diagnostics are needed to improve early NAI use among cancer patients with influenza.

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1506. Burden of Respiratory Syncytial Virus (RSV) and Other Lower Respiratory Tract Viral Infections During the First Two Years of Life: a Prospective Study
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Session: P-68. Respiratory Infections - Viral

Background. Lower respiratory tract infections (LRTIs) are a leading cause of pediatric morbidity and mortality worldwide, with ~650,000 deaths recorded in < 5-year-olds in 2016. Cross-sectional studies on hospitalized LRTIs are available, but longitudinal studies on the total burden of viral LRTIs are scarce. This study (NCT01995175) prospectively collected incident RSV and other viral LRTIs in a multinational cohort.

Methods. From 2013 to 2017, infants in 8 countries were enrolled at birth and followed for LRTIs up to 2 years of age. Infants with suspected LRTIs were clinically examined and swabbed. Nasal swab samples were tested using quantitative real-time PCR for RSV and multiplex PCR panel for 16 other respiratory viruses/subtypes; bacterial culture was not performed. LRTI and severe LRTI episodes were defined per 2015 WHO LRTI case definitions. Viruses detected from nasal swabs collected from participants with WHO-defined LRTI and severe LRTI episodes are reported.

Results. The 2401 infants followed experienced 1012 LRTI episodes; 259 of these were severe LRTIs. At least 1 virus was detected from 909 (90%) and 235 (91%) LRTI and severe LRTI episodes, respectively. Enteroviruses/Rhinoviruses (EV/RV, 49%) were detected most frequently in samples collected from LRTI episodes, followed by RSV (22%), parainfluenza (PIV, 14%), human metapneumovirus (hMPV, 8%) and seasonal coronavirus (CoV, 6%). RSV was detected in 39% of samples from LRTI episodes in < 3-month-olds and in 18% of 1-year-olds (Table 1). In a similar trend, RSV was detected in 47% of samples from severe LRTI episodes in < 3-month-olds and in 21% of 1-year-olds (Table 2). Co-infection with another virus was common in CoV-positive samples (67%), while most samples positive for RSV (71%), hMPV (70%), EV/RV (67%) and PIV (58%) had no other virus detected.

Table 1. Occurrence of laboratory confirmed respiratory viral infections by viral pathogens identified in nasal swab samples from WHO-defined LRTI episodes

Respiratory virus, n (%)	Age group				
	0-2 months N=111/110	3-5 months N=211/210	6-11 months N=277/276	12-23 months N=418/416	0-23 months N=1017/1012*
Enterovirus/Rhinovirus	47 (42.3)	123 (58.3)	123 (44.4)	204 (48.8)	497 (48.9)
RSV	43 (38.7)	45 (21.3)	64 (23.1)	74 (17.7)	226 (22.2)
Strain					
A	13 (11.7)	11 (5.2)	19 (6.9)	51 (12.2)	94 (9.2)
B	30 (27.0)	34 (16.1)	45 (16.2)	23 (5.5)	132 (13.0)
Any Parainfluenza	10 (9.0)	39 (18.5)	34 (12.3)	61 (14.6)	144 (14.2)
Type					
1	0 (0.0)	1 (0.5)	6 (2.2)	10 (2.4)	17 (1.7)
2	0 (0.0)	3 (1.4)	0 (0.0)	3 (0.7)	6 (0.6)
3	7 (6.3)	26 (12.3)	19 (6.9)	33 (7.9)	85 (8.4)
4	3 (2.7)	9 (4.3)	9 (3.2)	16 (3.8)	37 (3.6)
Human metapneumovirus	2 (1.8)	10 (4.7)	27 (9.7)	41 (9.8)	80 (7.9)
Any Coronavirus	9 (8.1)	16 (7.6)	18 (6.5)	21 (5.0)	64 (6.3)
Strain					
229E	4 (3.6)	1 (0.5)	1 (0.4)	3 (0.7)	9 (0.9)
OC43	4 (3.6)	6 (2.8)	13 (4.7)	11 (2.6)	34 (3.3)
NL63	1 (0.9)	7 (3.3)	0 (0.0)	4 (1.0)	12 (1.2)
HKU1	0 (0.0)	2 (0.9)	4 (1.4)	3 (0.7)	9 (0.9)
Adenovirus	1 (0.9)	5 (2.4)	14 (5.1)	29 (6.9)	49 (4.8)
Any Influenza	3 (2.7)	6 (2.8)	12 (4.3)	22 (5.3)	43 (4.2)
Type					
A	3 (2.7)	4 (1.9)	10 (3.6)	15 (3.6)	32 (3.1)
B	0 (0.0)	2 (0.9)	2 (0.7)	7 (1.7)	11 (1.1)
Bocavirus	1 (0.9)	7 (3.3)	9 (3.2)	15 (3.6)	32 (3.1)

Per-protocol set. severe LRTI, lower respiratory tract infection defined using the 2015 WHO case definition (Modjarrad et al 2016, doi: 10.1016/j.vaccine.2015.05.093); N, number of nasal swab samples collected in each age group/number of episodes in each age category; n (%), number (percentage) of nasal swab samples positive for a given viral infection; RSV, respiratory syncytial virus. *185 nasal swab samples from 185 episodes had one or more laboratory confirmed viral pathogens. Note: data from multiple sites in Argentina, Bangladesh, Canada, Finland, Honduras, South Africa, Thailand and United States.

Table 2. Occurrence of laboratory confirmed respiratory viral infections by viral pathogens identified in nasal swab samples from WHO-defined severe LRTI episodes

Respiratory virus, n (%)	Age group				
	0-2 months N=45/45	3-5 months N=68/67	6-11 months N=62/62	12-23 months N=85/85	0-23 months N=260/259*
Enterovirus/Rhinovirus	19 (42.2)	38 (55.9)	28 (45.2)	42 (49.4)	127 (48.8)
RSV	21 (46.7)	18 (26.5)	16 (25.8)	18 (21.2)	73 (28.1)
Strain					
A	5 (11.1)	4 (5.9)	5 (8.1)	13 (15.3)	27 (10.4)
B	16 (35.6)	14 (20.6)	11 (17.7)	5 (5.9)	46 (17.7)
Any Parainfluenza	4 (8.9)	15 (22.1)	3 (4.8)	8 (9.4)	30 (11.5)
Type					
1	0 (0.0)	1 (1.5)	1 (1.6)	4 (4.7)	6 (2.3)
2	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
3	4 (8.9)	12 (17.6)	2 (3.2)	1 (1.2)	19 (7.0)
4	0 (0.0)	2 (2.9)	0 (0.0)	4 (4.7)	6 (2.3)
Human metapneumovirus	0 (0.0)	2 (2.9)	8 (12.9)	9 (10.6)	19 (7.3)
Any Coronavirus	2 (4.4)	4 (5.9)	5 (8.1)	3 (3.5)	14 (5.4)
Strain					
229E	1 (2.2)	0 (0.0)	0 (0.0)	1 (1.2)	2 (0.8)
OC43	0 (0.0)	0 (0.0)	3 (4.8)	2 (2.4)	5 (1.9)
NL63	1 (2.2)	4 (5.9)	0 (0.0)	0 (0.0)	5 (1.9)
HKU1	0 (0.0)	0 (0.0)	2 (3.2)	0 (0.0)	2 (0.8)
Adenovirus	0 (0.0)	2 (2.9)	4 (6.5)	6 (7.1)	12 (4.6)
Bocavirus	0 (0.0)	3 (4.4)	4 (6.5)	3 (3.5)	10 (3.8)
Any Influenza	0 (0.0)	2 (2.9)	2 (3.2)	4 (4.7)	8 (3.1)
Type					
A	0 (0.0)	1 (1.5)	2 (3.2)	4 (4.7)	7 (2.7)
B	0 (0.0)	1 (1.5)	0 (0.0)	0 (0.0)	1 (0.4)

Per-protocol set. severe LRTI, lower respiratory tract infection defined using the 2015 WHO case definition (Modjarrad et al. 2016; doi: 10.1016/j.vaccine.2015.05.093); N, number of nasal swab samples collected/number of episodes in each age category; n (%), number (percentage) of nasal swab samples positive for a given viral infection; RSV, respiratory syncytial virus; *185 nasal swab samples from 185 episodes had one or more laboratory confirmed viral pathogens. Note: data from multiple sites in Argentina, Bangladesh, Canada, Finland, Honduras, South Africa, Thailand and United States.

Conclusion: Respiratory viruses are detected in the majority of LRTIs during the first 2 years of life. RSV likely accounts for much of this overall LRTI burden. Our results suggest that RSV most strongly impacted the very young; it was the most commonly detected virus in severe LRTIs in infants aged < 3 months. RSV was also persistently detected at high levels in samples from LRTIs (22%) and severe LRTIs (28%) in children up to 2 years old.

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1507. Clinical Characteristics of Common Respiratory Viruses Detected in Infants Across Different Clinical Settings

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Session: P-68. Respiratory Infections - Viral

Background. Viral acute respiratory infections (ARI) continues to be a significant cause of healthcare visits in young children. We evaluated the clinical presentation and disease severity of common respiratory viruses associated with medically attended ARI in infants.

Methods. We conducted a prospective viral surveillance study in Davidson County, TN. Infants under one year with fever and/or respiratory symptoms were enrolled from the outpatient (OP), emergency department (ED), or inpatient (IP) settings from 12/16/2019 through 4/30/2020. Nasal swabs were collected and tested for common viral pathogens using Luminex® NxTAG Respiratory Pathogen Panel. Demographic and clinical characteristics were collected through parent/guardian interviews and medical chart abstractions.

Results. In total, 364 participants were enrolled, and 361 (99%) had nasal swabs collected and tested. Overall, mean age was 6±3.3 months, 50% were female, 45% White, and 27% Hispanic. Of the 295 (82%) virus-positive specimens; the three most