

780. Clinical Characteristics And Outcomes among Children with Neurological Disorders Hospitalized with Community-acquired Pneumonia (CAP) in the Etiology of Pneumonia in the Community (EPIC) Study

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Background. Although children with neurological disorders are vulnerable to complications from respiratory infection, CAP epidemiology among these children is poorly understood.

Methods. Children <18 years hospitalized with clinical and radiographic CAP were enrolled in the CDC EPIC study in Memphis, Nashville, and Salt Lake City. Children residing in a chronic care facility and those with recent hospitalization, tracheostomy, or severe immunosuppression were excluded due to healthcare exposure. Neurological disorders were defined as cerebral palsy, spinal cord abnormalities, epilepsy, Down syndrome, developmental delay, and chromosomal and other disorders with primary neurological manifestation. We compared children with neurological disorders to those with other non-neurological co-morbidities and with children with no co-morbidities.

Results. From January 2010-June 2012, 2358 children with CAP were enrolled; 279 (12%) had a neurological disorder (54% with another co-morbidity), 968 (41%) had non-neurological co-morbidities only, and 1,111 (47%) had no co-morbidities. Children with neurological disorders were older, had longer hospital and intensive care unit (ICU) length of stay (LOS), and more ICU admissions, than children without neurological disorders; there were no differences in the proportion mechanically ventilated.

Variable*	Group 1 Neurological disorder n=279	Group 2 Non- neurological co-morbidity n=968	Group 3 No co- morbidity n=1111	p-value	
				Group 1 vs 2	Group 1 vs 3
Median age in years (interquartile range)	5.9 (1.7-9.8)	2.8 (1.3-6.2)	1.8 (0.8-4.6)	<0.01	<0.01
Congenital heart disease	95 (34)	104 (11)	-	<0.01	-
Asthma	83 (30)	696 (72)	-	<0.01	-
Hospital LOS >3 days	153 (55)	316 (33)	357 (32)	<0.01	<0.01
ICU admission	102 (37)	186 (19)	209 (19)	<0.01	<0.01
ICU LOS >3 days	49/102 (48)	66/186 (35)	86/209 (41)	<0.01	<0.01
Invasive mechanical ventilation	34/102 (33)	52/186 (28)	79/209 (38)	0.12	0.11
Death	1 (0.4)	0 (0)	2 (0.2)	-	-

*Values are No. (%) unless otherwise specified

Conclusion. When hospitalized with CAP, children with neurological disorders had a more severe course of illness, in terms of ICU admission and LOS, in comparison with children without neurological disorders, which may be independent of respiratory failure alone.

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