

RSV infection may be associated with higher risk for bacterial pneumonia

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Two common and sometimes dangerous respiratory diseases, a viral one caused by respiratory syncytial virus (RSV), and a bacterial one caused by *Streptococcus pneumoniae* may be linked, suggests a study published in this week's *PLOS Medicine*.

Daniel Weinberger, from Yale University School of Public Health, and colleagues, analyzed US hospitalization data to investigate a possible association between RSV activity and pneumonia in children under two, and found that infection with RSV may increase the risk of pneumonia caused by *S. pneumoniae*, especially in infants.

For their analysis, the researchers used data collected between 1992 and 2009 on more than 700,000 hospitalizations for RSV and more than 16,000 hospitalizations for pneumococcal pneumonia (caused by *Streptococcus pneumoniae*) among young children. They show that periods with high numbers of RSV hospitalizations were also associated with significant increases in pneumococcal disease. Among children under one year old, 20.3% of pneumococcal pneumonia cases were associated with high RSV activity. Following the introduction of routine vaccination against *S. pneumoniae* in 2000, there was a significant decline in hospitalizations for RSV among children under one year old.

Associations cannot prove that one infection causes increased susceptibility to the other, and because the researches only had overall numbers for hospitalizations linked to either pathogen, they also could not check whether children had actually been infected with both RSV

and *S. pneumoniae*. Nonetheless, the results point to possible interaction between the two diseases, and suggest that RSV infection may increase the risk for pneumococcal pneumonia, particularly in young infants.

More information: Weinberger DM, Klugman KP, Steiner CA, Simonsen L, Viboud C (2015) Association between Respiratory Syncytial Virus Activity and Pneumococcal Disease in Infants: A Time Series Analysis of US Hospitalization Data. *PLoS Med* 12(1): e1001776. [DOI: 10.1371/journal.pmed.1001776](https://doi.org/10.1371/journal.pmed.1001776)

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