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LUNG ALERT

An important virus in asthma pathophysiology?

▲ Pifferi M, Maggi F, Andreoli E, et al. Associations between nasal torquetenovirus load and spirometric indices in children with asthma. *J Infect Dis* 2005;**192**:1141–8

There is evidence that viral respiratory infections may have an important role in asthma. Torquetenovirus (TTV) is widespread in the general population, and increased loads have been associated with decreased circulating CD3 and CD4 cells as well as increased circulating B cells and eosinophilic cationic protein (ECP), suggesting possible immunomodulatory effects. This group investigated, for the first time, the association between TTV carriage and spirometric indices in asthma.

The nasal secretions of 59 asthmatic children aged 7–16 years who had been stable for at least 2 months and 30 non-asthmatic non-atopic controls matched for age and residence were studied. 93% of asthmatics and 83% of controls had TTV carriage (no significant difference). Because of the low number of subjects without TTV carriage, the analysis compared those with high TTV load and those with low or absent TTV load. No differences in forced expiratory volume in 1 second (FEV₁) or forced vital capacity (FVC) were found between cases and controls, but FEV₁/FVC, FEF_{25–75%}, and FEF_{25–75%}/FVC were all significantly lower in cases than in controls, and in cases with a high TTV load compared with those with a low TTV load. TTV load was also correlated with sputum ECP level.

The authors conclude that enhanced TTV replication may negatively affect the size and/or tone of small to medium airways in children with asthma, either directly or via the inflammatory response it elicits. Although they acknowledge that TTV replication may merely serve to identify children with abnormal airway or immune function, further work is warranted to prove that this virus is an important element in the pathophysiology of asthma.

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