

Viral Upper Respiratory Tract Infection and Otitis Media Complication in Young Children

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(See the article by Chonmaitree et al. on pages 815–23)

Viral infections in children are very common and raise huge problems of management. The burden of these infections is difficult to quantify because of the lack of pathognomonic features. There is a clear need to know the characteristics of these infections to give directions for care and possibly to provide specific treatments, prevention, and prophylaxis.

In this issue of *Clinical Infectious Diseases*, Chonmaitree et al. [1] conducted a large, longitudinal observational study of children with upper respiratory infection and examined for otitis complication—either acute otitis media or otitis media with effusion. They found that 63% of children were virus positive and concluded that the rate of otitis media complication was 61% (37% for acute otitis media and 24% for otitis media with effusion), that these risks decrease as the age increases, and that adenovirus, coronavirus, and respiratory syncytial virus represent more than two-thirds of otitis media complications.

These findings confirm the findings of previous works but with differences. The main problem with this kind of study is

the accuracy and sensitivity of viral investigations. Indeed, in this study, the rate of respiratory syncytial virus infection was found to be low, probably as a result of the method used (conventional assays, type of molecular technique, RT-PCR vs. microarray, etc). Furthermore, human metapneumovirus and bocavirus were not studied [2, 3]. Thus, extensive (one-third of the children in the study were not virus positive) and “stabilized” viral investigations are still needed to capture the real facts, to create a precise hierarchy of all of the different pathogens involved [4]. However, the findings of Chonamaitree et al. [1] also confirm that respiratory syncytial virus and influenza virus are 2 of the main causes of complications of upper respiratory infection.

In this study, children aged <1 year and those who attended day care centers had a greater risk of acquiring upper respiratory tract infection and otitis media, compared with older children and those who were cared for at home. This finding is well known; however, the expectation that ill children can be kept out of day care centers or that home care can be provided for children until at least 1 year of age raises very difficult socioeconomic barriers. It should be noted that Chonamaitree et al. [1] did not mention the rate of antibiotic treatment [5] or the number of hospitalizations [6].

Management of viral infection in children is still complicated by genetics. In fact, it was recently reported that suscep-

tibility to respiratory syncytial virus bronchiolitis, for example, is related in part to a genetic profile of innate immunity [7].

This article is important, especially because the rate of complications of otitis in upper respiratory tract infection was longitudinally studied. However, the results have to be integrated with other investigations that use different diagnostic tests.

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