Correspondence

Reply to Schlapbach et al

To the Editor—We thank Schlapbach et al for their comments on our recent prospective study of human metapneumovirus (HMPV) in hospitalized children. Schlapbach and colleagues describe a fatal case of acute respiratory distress syndrome (ARDS) attributed to HMPV and reference several other published case reports of severe HMPV infection. Their letter raises several points worthy of discussion.

First, the case described was diagnosed as HMPV infection by direct immunofluorescence assay (DFA). This approach has been shown to have reasonable sensitivity (62%–90%) for HMPV detection in clinical specimens, compared with real-time reverse-transcription polymerase chain reaction (RT-PCR), and excellent specificity [1–3]. HMPV is an established primary cause of lower respiratory infection in children [4, 5]; thus, HMPV was likely to have been the major contributor to the ARDS process. However, DFA also was used to test for other common viruses, which were not detected; DFA and culture are less sensitive than real-time RT-PCR for other respiratory viruses [6, 7]. Therefore, viral coinfection cannot be excluded. Likewise, molecular testing for bacterial pathogens was not performed, making concomitant bacterial sepsis a possibility. Nucleic acid–based testing enhances detection of virtually all pathogens and is rapidly becoming the standard of practice.

Second, the report revealed the potential severity of HMPV infection. Schlapbach et al suggest that a lower percentage of children with HMPV infection require intensive care than RSV-infected children; however, the data to support this contention are lacking. Most studies of adequate sample size that compare HMPV and RSV find that the clinical syndromes are virtually indistinguishable (reviewed in Deffrasnes et al [8]). Indeed, in our study, the rates of intensive care unit admission were similar for HMPV (3%) and RSV (2%), and there were no striking clinical differences between illnesses associated with the 2 viruses. As noted by Schlapbach et al, ARDS also has been described only rarely for RSV, with <20 reported cases. We agree that the prevalence of severe infections associated with HMPV, including ARDS, is probably underappreciated because of the lack of widespread use of HMPV diagnostic testing. Although death due to RSV and HMPV is rare in industrialized nations, global mortality associated with RSV in developing countries is substantial [9]. Because HMPV causes clinical disease similar to that associated with RSV, it is likely that HMPV is also associated with a sizable proportion of childhood mortality worldwide. Epidemiologic investigations in developing regions are critical to define these illnesses. One limitation of many hospital-based studies of respiratory viral infection is the inclusion of only 1 or 2 seasons; HMPV shows substantial variation in prevalence from one time period to the next. Large, prospective, population-based studies using molecular diagnostics are needed to fully delineate the burden and spectrum of disease due to HMPV.

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References

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