

activities for prevention, healthcare and nutritional support of children.

Considering that the *Jornal de Pediatria* is a periodical of great importance, not just for keeping pediatricians informed, but for all professionals involved in children's healthcare, we are grateful for the contribution made by the readers named above and also for the opportunity given us by this esteemed journal to widen discussion of our work.

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## Rhinovirus and bronchiolitis

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Dear Editor:

It was with great satisfaction that I read "Rhinovirus and acute bronchiolitis in young infants" by Pitrez et al.<sup>1</sup> The article deals with a relevant subject, emphasizing the need for more and better investigation of childhood viral respiratory diseases, given the discovery of new viruses and the possibly increased importance of others, as the article states. These

etiologic investigations have an increased degree of importance because respiratory infections are the most common cause of hospitalization during the first year of life.<sup>2</sup> Furthermore, there are also reports of new viruses, like the metapneumovirus, being related with bronchiolitis.<sup>3</sup>

I would like to make some observations about the results reported: the first is related to the fact that they did not find any cases of the parainfluenza virus in their sample. Data from the Santa Casa de São Paulo and the Faculdade de Medicina de Jundiaí demonstrate that 30% of samples collected from 400 children in 2005 were positive for respiratory viruses. Respiratory syncytial virus (RSV) was the first, and the type 3 parainfluenza virus the second most frequent etiologic agent of viral respiratory infection. Similar findings were reported by data from an investigation at the acute respiratory infection surveillance program run by the São Paulo Health Department.<sup>4,5</sup>

Another important observation is on the occurrence of RV as etiologic agent of bronchiolitis. We can observe in Table 2 of the article that RSV was identified in 33 of the 35 samples and RV in six. Just two cases, therefore, did not present RSV. The article does not make clear which viruses were isolated in the two cases where RSV was absent.

In their discussion, the authors observed that there was not sufficient evidence from their results to be able to state that RV was an etiologic agent of bronchiolitis, which is a correct statement, since RV always, or almost always, appeared together with RSV. It is not clear whether or not RV was an aggravating factor or if it affected prognosis.

In my opinion, RV was just an accidental finding. The opinion of the study authors on this subject is of importance to the direction of future research into respiratory viruses in our country.

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### Authors' reply

Dear Editor,

It is with great satisfaction that the authors respond to and discuss the questions raised and comments made by Prof. Eitan N. Berezin. Our article entitled "Rhinovirus and acute bronchiolitis in young infants" describes in detail the identification of rhinovirus and other respiratory viruses in a sample of young infants admitted to a university hospital for acute bronchiolitis (AB). The study was characterized by specific sample selection criteria, particularly with respect to age group (less than 6 months), clinical status (first episode of wheezing) and period of recruitment (May to September, 2002 [Fall and Winter in Brazil]).

In answer to Prof. Berezin's first observation, on the absence of parainfluenza in this sample, the authors believe that, regarding the region, seasonality and sample size, this virus may well not exhibit significant prevalence. In the study in question, this negative finding can be explained by the small sample and the short recruitment period (May to September 2002). Furthermore, other authors have also demonstrated the same results and have found a low prevalence of this virus. In a previous study of the prevalence of rhinovirus in AB, all 84 samples tested were negative for parainfluenza.<sup>1</sup> Jartti et al. published a study in which they found parainfluenza to be the sixth most common etiologic agent in infants with expiratory wheezing.<sup>2</sup> Data from Porto Alegre from the 90s show that just 1.5% of 862 samples from children less than 5 years old with acute respiratory infections were positive for parainfluenza.<sup>3</sup> Finally, local observations at our institution (unpublished data) demonstrate that over 2 consecutive years (2000 and 2001) the virus was only detected in nine AB patients.

On the question of identifying rhinovirus alone in infants with AB and the possibility that there could be cases in which it is the sole etiologic agent of AB, some authors have observed this situation in larger numbers of patients than in the study in question.<sup>1,4</sup> There is also evidence that rhinovirus is capable of infecting the lower airways.<sup>5</sup> The authors of this article point out that molecular detection (RT-PCR) for picornavirus (rhinovirus) presents limitations in relation to clinical diagnosis. Nevertheless, the method should be considered, particularly for patients where no other virus can be identified, since it is currently the only one available.

On the issue of whether the association of infection by rhinovirus with respiratory syncytial virus (RSV) in AB is associated with increased severity, Papadopoulos et al. have

indeed demonstrated that this is the case.<sup>4</sup> Notwithstanding, that finding does not exclude the possibility that rhinovirus could be the sole cause of AB in a smaller number of infants. The two cases in which RSV was not identified, and which we did not discuss and Prof. Berezin questioned, did present rhinovirus as the sole agent identified. A diagnosis of mixed infection in AB is not uncommon (it can account for as many as 20% of cases) and is an expected finding.

Finally, the authors do not agree with the statement by Prof. Berezin that the detection of rhinovirus in this group of patients is "simply a finding". Many researchers have isolated rhinovirus from patients with infections of lower airways in different age groups. Rhinovirus has been the second most common etiologic agent found in AB. More invasive methods of detecting lower airway infections by rhinovirus cannot be indicated for children for obvious ethical reasons. The results of our study and the studies mentioned here in our reply to the "Letter to the Editor" emphasize the importance we highlighted in our article of carrying out studies with larger sample sizes (multicenter projects) and with a longitudinal dimension so that prognostic factors and an association with the development of atopic asthma can be better understood.

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