

# CARTAS AL EDITOR

## Mixed viral infections in children with acute diarrhoea

*To the editor:* Respiratory infections (RI) and acute diarrhoea (AD) are the main causes of morbidity and mortality among Mexican children. A retrospective analysis of rotavirus (RV) epidemics in Merida, Mexico from 2003 to 2008 indicates that 31.5% of children with diarrhoea also present respiratory symptoms. We hypothesized that the co-occurrence (mixed clinical symptoms) of RI and AD may also be a result of mixed diarrheal and respiratory viral infections in children. To address this possibility we evaluated the presence of different respiratory viruses in children diagnosed with acute diarrhoea in two slums with poor housing and health conditions in Merida.

This prospective study involved a total of 127 children under 5 years of age with AD who received medical attention at the "Units of Social Insertion" (USIs) from July 2003 to June 2004. The selected USIs are health units serving people in the city who do not have social security. Faecal samples were collected to detect RV infection and a throat swab was collected from all children to detect influenza and/or other respiratory viruses. Clinical and epidemiological data were collected from all patients. Faecal samples were processed for rotavirus (RV) using polyacrylamide gel electrophoresis (PAGE).<sup>1</sup>

Throat swabs were processed for respiratory viruses, including influenza A M gene and respiratory syncytial virus (RSV) with nested RT-PCR, as previously described.<sup>2</sup>

RV was identified in 61 of the samples (48%) included in the study, of which 37 children (61%) showed at least one respiratory symptom. The most commonly referred symptoms were cough and nasal congestion (35% and 34%, respectively), followed by rhinorrhea (33%). Respiratory viruses were detected in 9% of samples (10 influenza A, one RSV), including five mixed infections with RV and influenza A. The clinical features of patients positive for influenza were diarrhoea (10/10), fever (5/10), rhinorrhea (6/10), nasal congestion (6/10), cough (5/10) and general malaise (5/10). Samples positive for respiratory viruses were detected in July and December 2003 (influenza A), and January-March 2004 (influenza A and RSV), coinciding with seasonal patterns of influenza circulation in Yucatan.<sup>3</sup>

Our findings suggest that respiratory viruses are present in children presenting mixed diarrheal and respiratory clinical symptoms, sometimes having mixed viral infections, as we have shown. Since other viruses (such as rhinoviruses or metapneumovirus) were not evaluated, the possibility of co-infection cannot be totally ruled out. Nevertheless, the recent influenza A H1N1 epidemic also showed that mixed diarrheal and respiratory

clinical symptoms may occur in some cases;<sup>4</sup> the accurate diagnosis of respiratory and/or diarrhoeal viruses should be considered.

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