

# RSV Appears Directly Related to Heart Damage

BY ROBERT FINN

SAN FRANCISCO — Respiratory syncytial virus itself, and not the bronchiolitis associated with the infection, appears to be the cause of the heart damage often seen in young children with the virus, according to a prospective study involving 74 children.

All 74 children were less than 12 months of age and were admitted to the hospital for bronchiolitis, Dr. Susanna Esposito explained in a poster at the Interscience Conference on Antimicrobial Agents and Chemotherapy.

Aside from their bronchiolitis, the children were healthy.

Investigators excluded children from the study if they had a chronic disease (including a chronic disorder of the pulmonary or cardiovascular system, chronic metabolic diseases, neoplasias, kidney or liver dysfunction, hemoglobinopathies, immunosuppression, and genetic or neurologic disorders) that increased the risk of complications of a respiratory infection.

The investigators from the University of Milan collected the specimens with nasopharyngeal swabs to detect respiratory syncytial virus (RSV) types A and B.

As it turned out, 35 patients (47%) tested positive for RSV infection, and the remaining 39 (53%) did not.

Patients with RSV had significantly more cardiac arrhythmias and a significantly greater degree of abnormal heart rate variability than those without RSV.

*Continued from previous page*

“just a snapshot” of the patients who came into the ED.

“It’s impossible to know from this data what happened before the patient came to the ED,” she said. “Did they have a blood culture obtained in their practitioner’s office? It’s [also] impossible to know what happened after they left the ED; did they have blood cultures obtained after admission on the floor?”

“We also don’t know anything about outcomes [or] results of tests,” she added.

The data suggest that “more evidence is needed to guide laboratory evaluation of febrile infants,” she concluded.

In response to a question, Dr. Johnson noted that a preliminary analysis found that the results did not change significantly if only patients with objective evidence of fever were included.

She also was asked whether some patients may not have had urine cultures taken because a urinalysis suggested that a culture was not necessary. Dr. Johnson replied that she did not look at urinalysis data, but she did look at how many patients had complete blood counts taken in lieu of blood cultures, “and the frequencies were not terribly different.”

Dr. Johnson said that she had no conflicts of interest. ■

For example, approximately 25% of the patients with RSV had cardiac arrhythmias, compared with about 5% of those without RSV. Approximately 60% of the patients with RSV exhibited abnormal heart rate variability, compared with approximately 40% of those without RSV.

The investigators found no differences between the two groups in pulse oximetry, chest radiography, respiratory involvement, or cardiac troponin I levels.

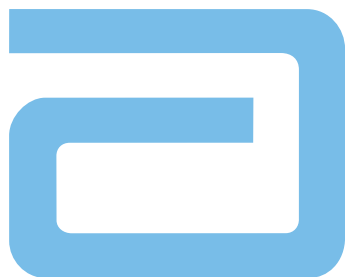
The heart involvement appeared to be related to an RSV viral load of 100,000 copies per milliliter or more, and not to drug use or the disease’s severity.

“This last finding suggests that RSV can be the direct cause of the heart damage and that arrhythmias can be found also in children with very mild RSV bronchiolitis in whom pulmonary hy-

per-tension and lung damage are nonexistent or marginal,” the investigators wrote.

“This means that a careful heart evaluation has to be performed in all the children with RSV bronchiolitis, and that higher viral load is a risk factor for heart damage development,” Dr. Esposito and her associates wrote.

The investigators reported that they had no conflicts of interest. ■



USE UNDER MEDICAL SUPERVISION.

## 3 Parts Sugar to 1 Part Salt.

The specific 3:1 ratio to help prevent dehydration due to diarrhea and vomiting.<sup>1</sup>

Pedialyte has a ratio of carbohydrate to sodium that is recommended for children at risk for dehydration due to diarrhea and vomiting. Substituting or adding other liquids—sports drinks, juices and sodas—shifts the balance toward carbohydrate. This can actually exacerbate diarrhea. No wonder you’ve made Pedialyte the #1 Pediatrician-recommended brand of oral electrolyte solution. And why we recommend you continue to tell moms why.

**Pedialyte®. Its ratio is its rationale.™**

1. Kleinman RE, Ed. *Pediatric Nutrition Handbook*. 6th Ed. Elk Grove Village, IL: American Academy of Pediatrics; 2009:651-659. Abbott Nutrition Abbott Laboratories Columbus, OH 43219-3034 USA © 2009 Abbott Laboratories Inc. AUGUST 2009

**Abbott**  
Nutrition