

## Evidence of human metapneumovirus in Australian children

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**TO THE EDITOR:** We wish to report the identification of a novel virus causing lower respiratory tract disease in Australian children. The presence of this virus was recently described in Dutch children and tentatively called human metapneumovirus (hMPV).<sup>1</sup> Clinical symptoms of infection are reported to resemble those of human respiratory syncytial virus (hRSV) infection. We therefore investigated whether the virus was present in Australian children.

Three isolates were identified from a random selection of 200 nasopharyngeal aspirate (NPA) specimens collected throughout 2001 from children presenting to the Royal Children's Hospital, Brisbane, or the Logan Hospital, a public hospital to the south of Brisbane, with clinical respiratory tract disease. All NPA specimens were initially negative for hRSV, influenza A and B, parainfluenza 1, 2 and 3 and adenovirus by direct fluorescent antigen testing and subsequent viral culture. These negative NPA specimens were then screened by polymerase chain reaction (PCR) for hMPV, based on the known sequence of the virus.<sup>2</sup> Sequencing of the PCR product in all three positive samples was 100%

homologous with the known hMPV sequence. Viral growth was subsequently detected in culture from two of these samples, and confirmed as hMPV, using the method of van den Hoogen et al.<sup>1</sup> Co-existent infection with coronavirus, rhinovirus, *Bordetella pertussis*, *Chlamydia pneumoniae* and *Mycoplasma pneumoniae* was excluded by PCR screening of the three hMPV isolates using validated in-house methods based on established protocols. Clinical features of the infected children are summarised in the Box.

This is the first report of the presence of hMPV infection in Australian children and describes a new viral respiratory syndrome. It also adds to the clinical spectrum and understanding of respiratory viruses causing acute bronchiolitis in children. Only 25%–33% of NPA specimens collected from our population with suspected respiratory tract disease yield a positive result for a known viral or bacterial pathogen. Clinical features in this small cohort are difficult to separate retrospectively from hRSV.

Based on the findings of this limited preliminary study of children presenting to hospital with respiratory tract symptoms, we would predict that hMPV is also relatively common in the Australian community. We are currently undertaking further characterisation of the hMPV isolates, a more detailed study of the epidemiology of hMPV disease, as well as developing improved diagnostic assays to rapidly identify clinical cases and assess seroprevalence of immunity to hMPV.

1. van den Hoogen BG, de Jong JC, Groen J, et al. A newly discovered human pneumovirus isolated from young children with respiratory tract disease. *Nature Med* 2001; 7: 719–724.

2. Genbank. Human metapneumovirus. Accession numbers AF371330–AF371367. National Center for Biotechnology Information, National Institutes of Health, Bethesda, MD, USA. □

## Risk of death from methicillin-resistant *Staphylococcus aureus* bacteraemia: a meta-analysis

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**TO THE EDITOR:** I write to offer a re-analysis of the data presented by Whitby and colleagues.<sup>1</sup> They reported a meta-analysis of crude estimates and relative risk of death derived from nine published studies for *Staphylococcus aureus* bacteraemia. They concluded that bacteraemia caused by methicillin-resistant *S. aureus* (MRSA) is associated with a “real increase in risk of death” compared with bacteraemia caused by methicillin-sensitive *S. aureus* (MSSA), with a relative risk of 2.12. However, they failed to explore fully the possible confounding effect of the patients' underlying diseases and treatment in their analysis.

With this in mind, I offer a re-analysis of their data using regression analysis. Mortality rates versus median length of stay in hospital before bacteraemia (LOS) are shown in the Box (next page) for the five studies for which these data were presented by Whitby et al (in Boxes 1 and 2). The four studies without LOS data were combined, using the median LOS from the other five studies in the figure and the regression model.

The regression analysis was performed with and without the weights provided by Whitby et al (Box 2), and also with and without the four studies for which LOS data were not available.

Regression analysis revealed a significant association between mortality rate and LOS ( $P < 0.005$ ). However, the addition of

### Clinical features of human metapneumovirus in three Australian children

	Case 1 (Girl, 12 months)	Case 2 (Boy, 5 years 11 months)	Case 3 (Boy, 20 months)
Date of nasopharyngeal aspirate collection	17/2/01	21/3/01	11/5/01
Presenting symptoms	Rhinorrhoea, cough, tachypnoea, wheeze, vomiting	Rhinorrhoea, cough, pharyngitis, conjunctivitis	Rhinorrhoea, cough, fever
Symptom duration before presentation (days)	4	3	4
Clinical signs	Respiratory distress with hypoxia, rhinorrhoea, pharyngitis, chest wheeze with crackles	Pharyngitis, chest wheeze	Rhinorrhoea, pharyngitis, chest wheeze, cervical lymphadenopathy
Chest X-ray	Not performed	Bilateral parahilar pneumonic infiltrates	Bilateral parahilar pneumonic infiltrates
Clinical diagnosis	Bronchiolitis	Viral lower respiratory tract infection	Viral lower respiratory tract infection
Outcome	Admitted for oxygen therapy and nasal suctioning for three days	Symptomatic treatment at home	Symptomatic treatment at home