

Pediatric presentation of pulmonic effusion secondary to influenza

Norma L. Cooney · Derek R. Cooney · Brian Kloss

Received: 2 June 2009 / Accepted: 13 June 2009 / Published online: 1 August 2009
© Springer-Verlag London Ltd 2009

A previously healthy 13-year-old male presented with a 10-day history of intermittent fevers. He had a several-day history of productive cough with nausea and vomiting and had been treated for dehydration 4 days previously. No chest X-ray was obtained. On the second visit to the ED, the patient was markedly hypotensive (80/40), tachycardic, and febrile at 104.9°F. On exam, his mentation was slow. The patient's extremities appeared mottled and cyanotic. He had decreased breath sounds in the left lung fields. Chest X-ray showed left lower lobe pneumonia with a large left pleural effusion (Fig. 1). Laboratory tests showed marked leukocytosis with a left shift. Blood cultures were negative, but nasopharyngeal swabs were positive for influenza A H1 and H3.

The etiology of pneumonia with extensive pleural effusion includes bacteria, with *S. pneumoniae*, *S. aureus* and *H. influenzae* being the most frequent pathogens, followed by viral agents, atypical bacteria, and, rarely, malignancy. Influenza A and RSV are the most common causes of viral pneumonia, followed by adenovirus, parainfluenza virus, and



Fig. 1 Left lower lobe pneumonia with large pleural effusion

influenza B [1]. Pneumonia occurs in a minority of patients with influenza (3–16%) [2]. Pleural effusion, while likely to develop in at least 40% of patients with bacterial pneumonias [3], is a rare complication of influenza pneumonia [2]. Bacterial coinfection is the most common complication of influenza pneumonia and occurs in up to 20% of cases [2]. This child had a high probability of having a bacterial coinfection. His late presentation precluded treatment with adamantanes or neuraminidase inhibitors.

References

1. Marcos MA, Esperatti M, Torres M (2009) Viral pneumonia. *Curr Opin in Infect Dis* 22:143–147
2. Lahti E, Peltola V, Virkki R, Ruuskanen O (2006) Influenza pneumonia. *Ped Infect Dis J* 25(2):160–164
3. Sinanotis CA, Sinanotis AC (2005) Community-acquired pneumonia in children. *Curr Opin in Pulm Med* 11:218–225

N. L. Cooney (✉)
Department of Emergency Medicine,
SUNY Upstate Medical University,
750 East Adams Street,
Syracuse, NY 13210, USA
e-mail: cooneyn@upstate.edu

D. R. Cooney · B. Kloss
Department of Emergency Medicine,
SUNY Upstate Medical University,
EMSTAT Center/550 East Genesee,
Syracuse, NY 13202, USA

D. R. Cooney
e-mail: cooneyd@upstate.edu
URL: <http://www.upstate.edu/emergency/residency/fellowship/emsdm.php>

B. Kloss
e-mail: klossb@upstate.edu