

Pediatric presentation of pulmonic effusion secondary to influenza

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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

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