



Unusual complication of *Mycoplasma pneumoniae* in a five-year-old child

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CASE REPORT

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Abstract

Mycoplasma pneumoniae is common agent causing community acquired pneumonia in children. However, the course of illness is usually benign and is rarely associated with pulmonary complications. We report a five-year-old child with massive pleural effusion and empyema secondary to *Mycoplasma pneumoniae* infection. This potential yet rare source of infection should be considered in young patients where resolution of symptoms from pneumonia is delayed.

Key Words

Mycoplasma pneumoniae, Pleural Effusion, Empyema

Implications for Practice

- *Mycoplasma pneumoniae* causes primary atypical pneumonia in older children.
 - *Mycoplasma pneumoniae* usually runs an uncomplicated course in most patients.
 - Massive pleural effusion and empyema can complicate *Mycoplasma pneumoniae* infection in children.
 - *Mycoplasma pneumoniae* should be considered in differential diagnosis while encountering syn-pneumonic effusions and empyema.
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Background

Mycoplasma pneumoniae (Mp) is a significant cause of pneumonia in children above five years of age. It commonly causes tracheobronchitis and bronchopneumonia.¹ The pulmonary complications of mycoplasma infection include severe and rapidly progressive pneumonia in the immunocompromised followed by acute respiratory distress syndrome, however empyema is extremely rare.^{2,3} We report a rare case of empyema secondary to *Mycoplasma pneumoniae* infection in a five-year-old child.

Case details

This child presented with complaints of cough, congestion and fever over the preceding seven days. On examination the child had a fever of 39.3°C with a congested throat but no evidence of rhinitis or lower respiratory involvement was present. The child was started on oral amoxicillin for acute pharyngitis and discharged. However, the child was brought to the hospital again after two days due to increasing fever and cough. Respiratory system examination revealed reduced air entry on right side but with no other adventitious sounds. Chest X-ray revealed opacification over the right mid zone area. His initial investigations revealed Haemoglobin - 11.3gm%, Total Leucocyte Count - 6450 cells/cu mm, Differential Count - N 72, L 18, M 03, E 07 and significantly elevated C-reactive protein (70mg/dl). He was hospitalised and given intravenous cefotaxime and clarithromycin. There was no clinical improvement after three days of therapy and the child continued to remain febrile. His blood culture did not reveal any growth. IgM antibodies for Mp by enzyme linked immunoassay (EIA) were positive with titres of 1: 5120. Liver function test on day four of admission revealed SGPT 265 U/L, SGOT 226 U/L, and total serum bilirubin 0.22mg/dl for which clarithromycin was withdrawn from the antibiotic regimen and oral doxycycline was added. Liver function tests improved following the withdrawal of clarithromycin. Repeat chest X-ray revealed extension of consolidation up to right mid zone and right lower zone with ipsilateral massive pleural effusion (Figure 1). A CT scan of the chest revealed consolidation of the right mid and lower zone along with pleural effusion for which thoracocentesis was

performed and 110 ml of pleural fluid was drained which was exudative in nature. Pleural fluid gram staining and culture did not reveal any organisms. The intercostal tube continued to drain for next seven days and was then removed. He received oral doxycycline and was discharged subsequently after 16 days of hospitalisation. The child was asymptomatic and had a normal chest X-ray on follow-up after three months.

Figure 1: Chest X-ray of five-year-old boy showing massive pleural effusion on the right side as a result of infection arising from *Mycoplasma pneumoniae*



Discussion

Pneumonia arising from *Mycoplasma pneumoniae* usually runs a benign course but respiratory and extra-pulmonary complications can occur. Pleural effusion, if it occurs, is usually a small amount of effusion which is self-limiting.⁴ Our patient had a large pleural effusion with empyema requiring chest tube drainage for more than a week.

The demonstration of elevated IgM antibodies by either indirect immunofluorescence or EIA is required for the diagnosis.¹ Alternatively, a fourfold increase in IgG antibodies by Complement Fixation Test or EIA can also provide the diagnosis. PCR of nasopharyngeal or throat swab has high specificity (>97%) and moderate sensitivity (50 - 70%) in diagnosing mycoplasma infections.¹ The recommended therapy for mycoplasma infection is a 10 day course of clarithromycin or five day course of Azithromycin.¹ Other drugs which are effective include erythromycin and tetracyclines.^{1,4} Our patient had an-icteric hepatitis which we attributed to clarithromycin, however it should be remembered that mild hepatitis can be seen with mycoplasma infection itself.¹ Our patient responded well to

oral Doxycycline which can be tried when macrolides cannot be given.

In our patient the symptoms did not resolve despite initial intervention, leading to further examination and differential diagnosis which indicated Mp as the cause of the patient's symptoms. Clinicians should be aware of this potential complication of mycoplasma while treating older children with para-pneumonic effusions so that early diagnosis and appropriate therapy can be instituted.

References

1. Powel DA. *Mycoplasma pneumoniae*. In: Kliegman RM, Behrman RE, Stanton BF, St. Geme J, Schor N, editors. Nelson Textbook of Pediatrics. 19th ed. Philadelphia: Saunders; 2010: 1029-32.
2. Purcell RH, Chanock RM. Role of *Mycoplasma* in human respiratory disease. *Med Clin North Am.* 1967 May;51(3):791-802.
3. Baum SG. *Mycoplasma pneumoniae* and atypical pneumonia. In: Mandell GL, Bennett JE, Dolin R editors. Principles and Practice of Infectious Diseases. Fourth Edition. USA: Churchill Livingstone Inc. New York, 1995; 1705-12.
4. Othman N, Yip CW, Samat NA. *Mycoplasma pneumoniae* infection complicated by empyema: a rare presentation. *Med J Malaysia.* 2005 Aug;60(3):389-91.

PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests

PATIENT CONSENT

The authors, Patra PK, Arun Babu T, declare that:

1. They have obtained written, informed consent for the publication of the details relating to the patient(s) in this report.
2. All possible steps have been taken to safeguard the identity of the patient(s).
3. This submission is compliant with the requirements of local research ethics committees.