Section: Pulmonology

Case Series

ATYPICAL PNEUMONIA COMPLICATED BY HAEMOLYTIC ANAEMIA - A CASE SERIES

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ABSTRACT

Atypical pneumonia refers to forms of pneumonia not caused by typical pathogens like Streptococcus pneumoniae, and may present with non-classical symptoms. Haemolytic anaemia, a rare but serious complication, involves immune-mediated red blood cell destruction. We retrospectively reviewed five female patients admitted between December 2024 and February 2025 with confirmed atypical pneumonia and immune haemolytic anaemia. All patients presented with respiratory symptoms, anemia, and positive Direct Coombs Test (DCT), and were confirmed positive for Mycoplasma pneumoniae via lgM or urine antigen. Management included macrolides or fluoroquinolones, steroids, and blood transfusions where necessary. All patients showed clinical and radiological resolution. This series underscores the importance of early diagnosis and intervention in such complex clinical scenarios.

Keywords: Hemolytic anemia, Atypical Pneumonia.

INTRODUCTION

Atypical pneumonia is caused by pathogens like Mycoplasma pneumoniae, Chlamydophila pneumoniae, and Legionella species, often presenting with subacute symptoms and extrapulmonary manifestations.[1] One of the uncommon complications includes autoimmune hemolytic anemia (AIHA), triggered by immune response to infectious agents.[2] Mycoplasma pneumoniae-associated hemolytic anemia is often mediated via cold agglutinins, and though rare, may be severe and necessitate intensive care.[3] This case series explores such instances and outlines clinical and laboratory profiles, management, and outcomes. Mycoplasma pneumoniae is widely recognized as a common cause of both upper and lower respiratory tract infections, predominantly diagnosed among middle and high school students, as noted by Clyde.[4] The clinical signs and symptoms of M. pneumoniae infection typically fall into two main categories: those related to respiratory tract involvement and those stemming from extra pulmonary complications. The infection most often manifests as tracheobronchitis or pneumonia. However, extra pulmonary effects—though less common—may affect various systems including hematologic, dermatologic, neurologic, musculoskeletal, renal, cardiac, and gastrointestinal, potentially occurring before, alongside, or after respiratory symptoms, as described by Waites and Talkington.[5] Among hematologic complications, hemolytic anemia, thrombocytopenia, thrombotic thrombocytopenic purpura, and hemophagocytosis have been documented in association with M. pneumoniae infection. Here, we present 5 cases of haemolytic anaemia related to M. pneumoniae infection.

MATERIALS AND METHODS

This case series includes five patients admitted to a tertiary care hospital between December 2024 and February 2025. Inclusion criteria were clinical and radiological evidence of pneumonia, positive DCT, and serological or antigenic confirmation of Mycoplasma pneumoniae. Data on demographics, clinical features, lab results, treatment, and outcomes were extracted from medical records. All patients were female, with ages ranging from 15 to 60 years.

Detailed Case Presentations

Case 1: A 17-year-old female presented with a 3-day history of fever, cough with expectoration, and breathlessness. She had no prior comorbidities and was fully vaccinated. Examination revealed pallor, tachypnea, tachycardia, and fine crackles in the right infrascapular region. She was admitted to the ICU and required non-invasive ventilation (NIV). Lab work revealed anaemia (Hb 6.9 g/dL), leukocytosis

(TC 17,000), elevated bilirubin (2 mg/dL), elevated LDH (648 U/L), and DCT 4+. Peripheral smear showed immune haemolytic anaemia features, reticulocyte count was 2%. Imaging revealed right lower zone consolidation with pleural effusion. Sputum, urine, and blood cultures were sterile; trueNat for TB was negative. Mycoplasma lgM was positive. Initially treated with amoxicillin-clavulanate and azithromycin, she was switched to levofloxacin and doxycycline due to macrolide resistance suspicion. One unit PRBC was transfused, IV steroids initiated. Patient improved, NIV was weaned to oxygen, and later to room air. Discharged in stable condition with complete radiological and clinical resolution on follow-up.

Case 2: A 15-year-old female presented with breathlessness, fever, cough, and earache for 4 days. Examination showed tachypnea, crackles in the right lower lung fields, and oxygen saturation of 86% on room air. She was admitted to ICU and received oxygen support. Blood work showed Hb 9 g/dL, LDH 378, DCT 4+, and reticulocyte count 1.95%. Imaging indicated right lower lobe consolidation with pleural effusion. ENT evaluation diagnosed myringitis. Mycoplasma lgM antibody was positive. Treated with azithromycin empirically. Improved clinically and radiological resolution was present. Patient was discharged and was asymptomatic at 2-month follow-up.

Case 3: A 25-year-old female presented with fever, productive cough, and right-sided pleuritic chest pain for 1 week. She was hypoxic and required oxygen therapy. Physical exam revealed tubular breath sounds in right lung bases. Labs showed anaemia with a drop from 8 g/dL to 6.5 g/dL in one day. Peripheral smear and DCT confirmed haemolytic anaemia. LDH was 800, reticulocyte count 13.5%, bilirubin 2.3. lgM Mycoplasma antibody was 14.2. Treated initially with amoxicillin-clavulanate, later changed to levofloxacin and clarithromycin. Patient improved clinically and radiological resolution was present. She was discharged in stable condition.

Case 4: A 60-year-old hypertensive female presented with productive cough, fever, and breathlessness. Oxygen saturation was 84% on room air. Crackles were heard in the left lower lung fields. Labs showed Hb drop from 9.8 to 8.5, DCT 4+, LDH 600, retic 2.5%. Mycoplasma lgM was positive. Chest xray suggestive of lower zone consolidation. TB screening and cultures were negative. Treated with amoxicillin-clavulanate initially, later changed to levofloxacin and azithromycin. IV steroids were administered and tapered. Patient improved and was discharged with follow-up showing resolution.

Case 5: A 36-year-old female presented with fever, cough, and dyspnoea. Sp02 was 87% on room air. Examination revealed crackles in left lower lung fields. Lab tests showed Hb dropped from 10 to 8.5, DCT positive, LDH 596, reticulocyte count 3%. Imaging revealed left lower zone consolidation. Urine Mycoplasma antigen was positive. Cultures and TB trueNat were negative. Treated with levofloxacin and doxycycline. Clinical and radiological improvement was observed. Patient discharged and remained asymptomatic on follow-up.

DISCUSSION

Mycoplasma pneumoniae is a frequent cause of atypical pneumonia and can lead to diverse extra pulmonary manifestations including dermatologic, neurologic, and hematologic syndromes".[6] Haemolytic anaemia, though rare, is a known complication attributed to autoantibody production such as cold agglutinins.[7] The present study reports one case of bullous myringitis and 2 cases of pleural effusion which are rare extra pulmonary manifestations. Notably all the cases were presented during the winter season. The occurrence could have been by chance, however care may be taken by the clinicians to have a high index of suspicion during winter season in this part of the world. The pathophysiology is related to lgM antibodies targeting erythrocyte surface antigens, causing complement-mediated lysis.[8] Early diagnosis using DCT and Mycoplasma specific serology or antigen tests is crucial. Empiric therapy covering atypical pathogens, such as doxycycline or levofloxacin, along with corticosteroids and transfusions in severe anaemia cases, is recommended.[5] The present case series demonstrated favourable outcomes with timely recognition and management.

CONCLUSION

Atypical pneumonia complicated by immune haemolytic anaemia, though infrequent, should be considered in patients with pneumonia and unexplained anaemia. Prompt serological diagnosis, directed antibiotic therapy, corticosteroid use, and blood transfusions can lead to favourable outcomes. Continued awareness among clinicians is essential to detect and manage this rare but significant complication.

REFERENCES

1. Cunha BA. The atypical pneumonias: clinical diagnosis and importance. Clin Microbiol Infect. 2006;12 suppl 3:12-24.
2. Gehrs BC, Friedberg RC. Autoimmune hemolytic anemia. Am J Hematol. 2002;69(4): 258-71.
3. Ali S, et al. Cold agglutinin disease associated with Mycoplasma pneumoniae. Int J Infect Dis.
4. W. A. Clyde Jr., "Clinical overview of typical Mycoplasma pneumoniae infections," Clinical Infectious Diseases, vol. 17, supplement 1, pp. S32–S36, 1993
5. K. B. Waites and D. F. Talkington, "Mycoplasma pneumoniae and its role as a human pathogen," Clinical Microbiology Reviews, vol. 17, no. 4, pp. 697–728, 2004.
6. Narita M. Pathogenesis of extrapulmonary manifestations of Mycoplasma pneumoniae infection with special reference to pneumonia. J Infect Chemother.
7. Atkinson TP, Balish MF, Waites KB. Epidemiology, clinical manifestations, pathogenesis, and laboratory detection of Mycoplasma pneumoniae infections. FEMS Microbiol Rev.

8. Berentsen S, Tjønnfjord GE. Diagnosis and treatment of cold agglutinin mediated autoimmune hemolytic anemia. Blood Rev. 2012;26(3):107-15.
9. Waites KB, Talkington DF. Mycoplasma pneumoniae and its role as a human pathogen. Clin Microbiol Rev.