

Psittacosis: Rare Respiratory Problem in Children

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ABSTRACT

Psittacosis is a rare disease particularly in children with usual presentation of respiratory and constitutional symptoms. The cases may remain undiagnosed or diagnosis may be delayed because of lack of awareness among the paediatricians and physicians. Early diagnosis is very important as this is potentially curable and preventable disease. An interesting case of psittacosis is being reported here, which has been treated successfully with azithromycin.

Key Words: *Psittacosis. Respiratory problem. Azithromycin.*

INTRODUCTION

Psittacosis, also known as ornithosis, caused by *Chlamydophila psittaci*, transmitted to humans predominantly from birds, is highly infectious disease causing acute or chronic respiratory symptoms associated with other systemic manifestations.^{1,2} High index of suspicion should be kept in mind when patients with constitutional and respiratory symptoms with suggestive radiological findings are encountered.

The objective of reporting this case is to increase awareness among paediatricians for respiratory and systemic diseases of such origin in any child with exposure to pets and birds, so that they can be managed timely and appropriately.

CASE REPORT

A 7-year unvaccinated boy presented with one year off and on history of dry cough, fever and headache. For the last one month, there was worsening of fever and cough and was now associated with breathing difficulty. Fever was moderate to high grade, associated with night sweats, lethargy and myalgias. Cough was present throughout the day and night with no sputum production. Symptoms of breathlessness worsened progressively, and on admission he was unable to walk or talk in sentences. Mother was complaining of significant weight loss in the past few months. On further inquiry, there were lots of pigeons at home and he used to look after them. There was no history of contact with tuberculous patient.

On examination, he was thin, emaciated, sick, febrile and cyanosed child without oxygen. He was maintaining oxygen saturation > 90% on 5 litres of oxygen. He was

tachypneic with severe respiratory distress. His respiratory rate was 62 beats/minute with subcostal and intercostal recessions, heart rate 110/minute, temperature 102°F and blood pressure 100/70 mmHg. Chest examination revealed pectus carinatum with bilateral crepitations. There was no clinical cardiomegaly, and both heart sounds were normal without added sounds. Rest of the systemic examination was unremarkable. His investigation showed total leukocyte count of $14.9 \times 10^3/\text{mm}^3$, neutrophils 59%, eosinophil 3%, hemoglobin 11.3 g/dl, platelet count $431/\text{mm}^3$, erythrocyte sedimentation rate 60 mm in 1st hour, C-reactive proteins 24 mg/dl and normal liver and renal function tests. His workup for tuberculosis included Mantoux test and gastric aspirate for acid fast bacilli which were negative. Chest X-ray showed ground glass haze, infiltrates and nodules visualized in both mid and lower zones and CT scan showed features of bilateral centrilobular nodules, patchy ground glass accentuations, areas of air space opacification with irregular reticular changes, suggestive of hypersensitivity pneumonitis. Lung functions showed moderate restrictive pattern.

He was initially given antipyretics, saline nebulizations and intravenous amoxicillin-clavulanic acid. After detailed inquiry of having pigeons at home, coupled with CT finding suggestive of hypersensitivity pneumonitis, diagnosis of psittacosis was made and oral azithromycin was started. On third day of starting azithromycin, there was significant improvement in dyspnea, and oxygen requirement dropped to 4 litres/minute. This improvement continued and he was afebrile on day 5, oxygen requirement kept declining, and he was able to speak full sentences by day 7, could walk and manage toilet needs by day 7 - 8, and could maintain saturation without oxygen supplementation by day 10. Azithromycin was continued for 14 days after defervescence. His oral intake improved and he gained 2 kg weight in 2 weeks time. He was supplemented with micronutrients at the time of discharge.

DISCUSSION

In developing countries like Pakistan, where pneumonia is still the most frequent cause for hospital admissions

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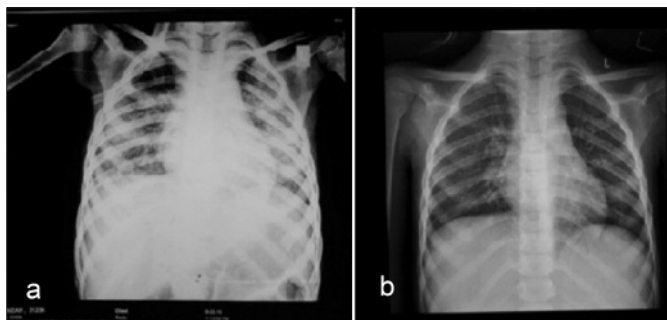


Figure 1: (A) Chest X-ray before treatment. (B) Chest X-ray after treatment.

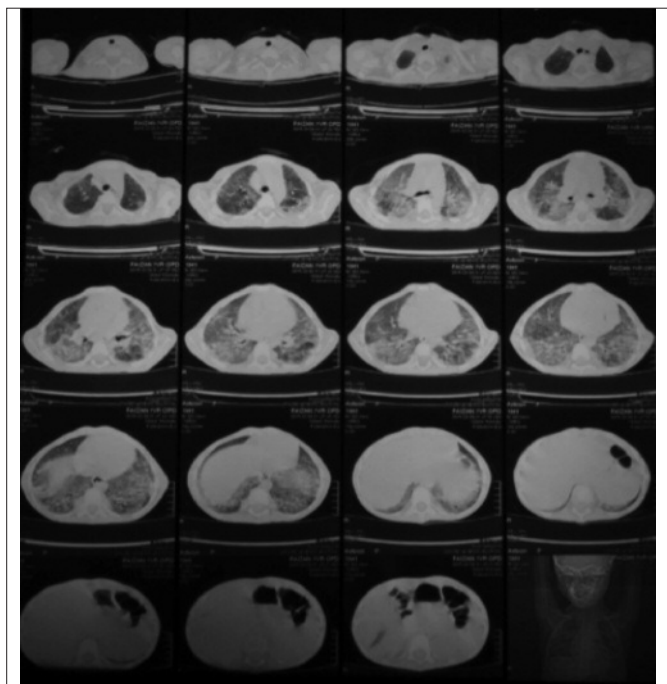


Figure 2: Computerized tomography of chest before treatment

and mortality in children,³ but rarely do we encounter such cases like hypersensitivity pneumonitis and interstitial lung disease. Psittacosis is a global disease with sporadic outbreaks where pets, mainly parrots, pigeons, poultry flocks and duck, etc, are being harboured.^{4,5} Incubation period is 5 - 14 days. Classical symptoms are abrupt onset fever, headache, photophobia, sweats, myalgias and dry cough. About 80% patients develop respiratory symptoms including dyspnoea, chest pain, productive cough, hemoptysis, pharyngitis, diarrhea, altered mental status and overt encephalitis.^{6,7}

In patients with respiratory symptoms, weight loss, bilateral lung involvement, and ground glass appearance of lungs on radiology can suggest interstitial lung disease. As our patient did not have any history of factory exposure, organic dust, gas, radiation, or drug intake in the past, but had pigeons at home with classical clinical and radiological findings. This helped

us to make a diagnosis of psittacosis. On literature review, 80% of patients, most often have lobar changes in lower lobes. Others may have migratory infiltrates or lobar changes in other lobes, rarely they may have pleural effusions. A small percentage of patients have no radiological changes.⁸

Chlamydomphila can be cultured from sputum, or pleural fluid; but as it is highly infectious, it is never encouraged to culture.⁷ The diagnosis of psittacosis is typically established by serologic testing, complement fixation (CF), and microimmunofluorescent antibody test (MIF);⁹ but these tests are not available with us. Treatment of choice in children above 8 years of age is doxycycline and preferably intravenous preparation in sick patients.⁶ Other choices are macrolides, preferably azithromycin or erythromycin.¹⁰ We chose azithromycin, keeping in view patient's age and feasibility of administration, and witnessed good response. Literature also mentioned chloramphenicol, ofloxacin, rifampicin but with higher relapse rates.¹¹

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