

中文題目：Amoxicillin 引起急性嗜伊紅性肺炎－案例報告

英文題目：A Case Report of Amoxicillin induced Acute Eosinophilic Pneumonia

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Background: Drug induced acute eosinophilic pneumonia (AEP) is a life-threatening disease, which can result in acute respiratory failure. AEP usually presents as acute onset of cough and dyspnea with unspecific image patterns. Due to its rare prevalence and indistinguishable with other pneumonia as their similar presentations, standard diagnosis of AEP was not well established. Herein, we present a case of drug induced AEP with initial presentation mimicking atypical pneumonia.

Case Presentation: A 56-year-old male with underlying diseases of allergic rhinitis and atopic dermatitis presented to our emergency department (ER) with shortness of breath for 10 days. For the past 2 weeks, he had been taking amoxicillin for rhinitis and upper airway infection at local medical clinics. However, symptoms of dyspnea with spiking fever, cough and facial swelling progressed by time. The patient's vital signs at ER were as follows: temperature, 36.8°C; heart rate, 122 beats per minute; respirations, 22 breaths per minute; blood pressure, 158/99 mmHg; and oxygen saturation, 90% on room air. Chest examination was bilateral wheeze. Chest X ray revealed right upper lung consolidation and bilateral infiltration (Figure 1A, 1B). Laboratory evaluation showed white blood cell count, 11410/mL; absolute eosinophil count, 2,650 /mL; IgE, 3,384 kU/L; and C-reactive protein, 152mg/L. Under the impression of pneumonia and acute asthma attack, we first applied Augmentin (Amoxicillin 1000mg and clavulanic acid 200mg) every 8 hours, Combivent (Salbutamol 2.5mg and Ipratropium 0.5mg) every 12 hours and solu-medrol (Methylprednisolone sodium succinate 40mg) every day for community pneumonia and asthma treatment. However, the image showed serial progression of infiltration (Figure 1C) and the clinical condition deteriorate to respiratory failure under NRM (non-rebreathing mask) 15 liters per minutes (100% oxygen) supplement after 3 days of treatment. Chest computed tomography (CT) showed consolidation mixed with ground-glass lesion (Figure 2A, 2B). The pathogen tests were all negative. Under the impression of eosinophilic pneumonia caused by amoxicillin, we then

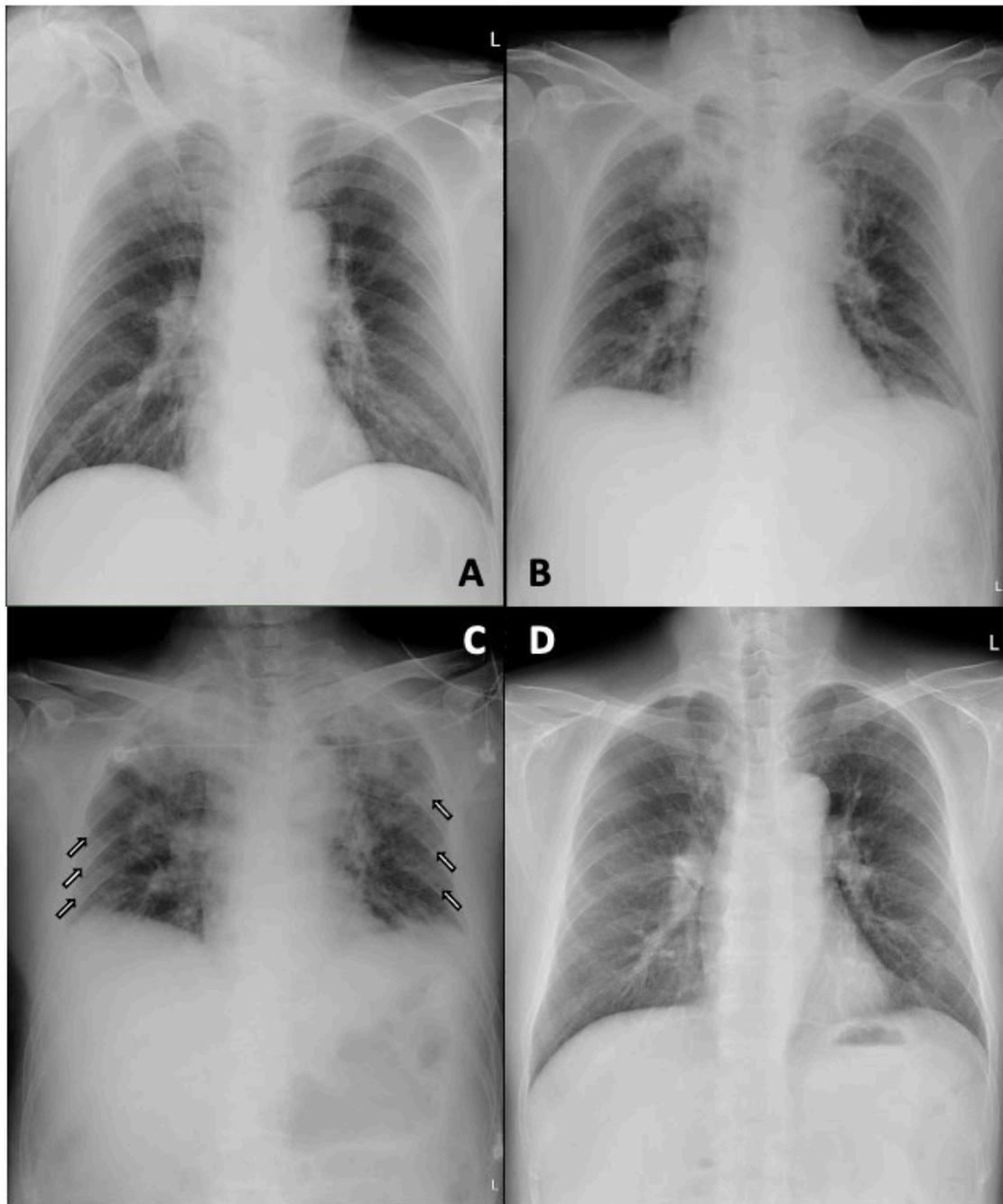
discontinued Augmentin (Amoxicillin 1000mg and clavulanic acid 200mg) and shift antibiotics to ceftazidime 1g every 8 hours with clarithromycin 500mg every 12 hours, add on antihistamine (Levocetirizine 5mg) and also escalate steroid dose to solu-medrol (Methylprednisolone sodium succinate) 80mg every day. Hypereosinophilia and respiratory distress condition improved gradually. He kept on oral prednisolone 15mg twice a day and antihistamine (Levocetirizine 5mg) at night after discharge, and the follow-up chest X ray (Figure 1D) and chest CT (Figure 2CD) showed the resolution of consolidation and ground-glass lesion.

Discussion: From current case report, acquisition of a careful medication history to identify the causative relationships is necessary for drug induced AEP. Drug-induced eosinophilic pneumonia is rare and the most common drugs related to eosinophilic pneumonia were daptomycin, mesalamine, sulfasalazine and minocycline. AEP was first described in 1989 with presentation of acute febrile illness, severe hypoxemia, diffuse pulmonary infiltrates, an increased number of eosinophils in bronchoalveolar-lavage fluid and an absence of infection and previous atopic illness. Compared to chronic eosinophilic pneumonia, patients with AEP have lower onset-to-diagnosis time (9.8 days versus 4.1 months) and more fulminant presentation with severe hypoxemia that require mechanical ventilation (19.2% versus 0%). Comparing asthma prevalence in eosinophilic pneumonia, a majority of patient (77%) of CEP was diagnosed with asthma but only a few (<3%) of AEP was mentioned. Common imaging findings at chest X ray or computed tomography included peripheral consolidation, diffuse ground-glass opacity, diffuse reticular pattern, diffuse interstitial pattern or pleural effusion, which can't be easily distinguished from other atypical pneumonia.

The management of AEP included oxygenation supplementation and systemic glucocorticoid therapy. The optimal dose and length of initial glucocorticoid treatment varies due to different disease severity.

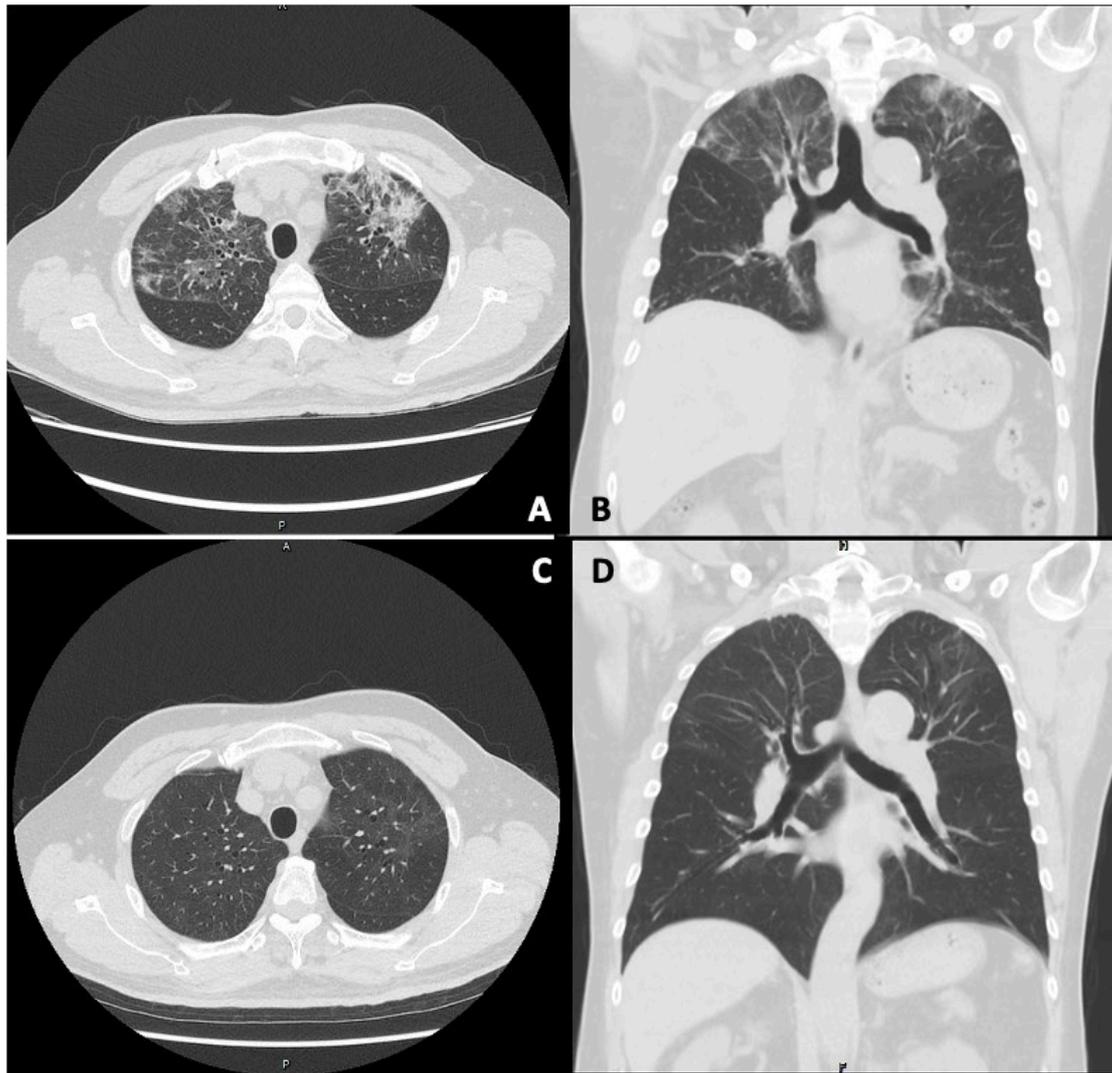
Conclusion: We reported a rare case of amoxicillin induced acute eosinophilic pneumonia mimicking pneumonia and asthma attack, but the clinical course was contrary to the standard treatment. Detailed medical history inquiry to establish the temporal relationship between clinical symptoms and contributing agent is the key for correct diagnosis and treatment.

Figure 1. Chest X ray



- A) Initial chest X-ray presented with bilateral pulmonary infiltration and upper lobe consolidation.
- B) Follow-up chest X ray showed bilateral pulmonary infiltration and upper lobe consolidation progression.
- C) Chest X-ray at respiratory failure (under 100% oxygen supplementation) showed bilateral upper lobe and right middle lobe consolidation with pulmonary infiltration. Kerly B line (arrow head) was noticed.
- D) Outpatient department follow-up showed improved pulmonary infiltration.

Figure 2. Computed tomography of chest



2A, 2B) Chest computed tomography during admission showed peripheral consolidation mixed with diffuse ground-glass lesion at upper lung fields.
2C, 2D) Chest computed tomography during outpatient department follow up showed improved consolidation and ground-glass lesions.