中文題目：巨細胞病毒感染引起一位人類免疫缺陷病毒感染之病人的第二次致死性肺炎攻擊

英文題目：The Second Hit of Fatal Pneumonia by Cytomegalovirus Infection in A Human Immunodeficiency Virus-infected Patient

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Background: Pneumocystis pneumonia (PCP) has been the most common opportunistic infection of the human immunodeficiency virus (HIV)-infected patients. The most common manifestations of PCP are subacute onset of progressive dyspnea, fever, non-productive cough, chest discomfort and respiratory failure. Association with cytomegalovirus (CMV) pneumonitis in the patients with HIV infection was rarely emphasized.

Case Report: A 27 y/o young man of severe kyphoscoliosis suffered from cough and fever for 2 weeks. Hence, he was brought to the hospital, where CXR showed mixed alveolar and interstitial infiltration predominantly over left lung field, probably pneumonia. Rotatory scoliosis of thoracic spine with convexity to right side was noticed. He denied any other systemic disease. He was intubated due to acute respiratory failure. Laboratory data included WBC, 5,200/μL; monocyte, 4.8%; Hb, 9.2 g/dL; platelet count, 180,000/μL; C-reactive protein (CRP), 80.1 mg/L; procalcitonin, 3.52 ng/mL; BUN, 5 mg/dL; creatinine, 0.58 mg/dL; albumin, 1.7 g/dL; SGOT, 24 IU/L; and SGPT, 20 IU/L. As anti-HIV antibody was positive and CD4+ lymphocyte count was 12 /uL with a CD4+/CD8+ ratio of 0.18, acquired immune deficiency syndrome was impressed. The HIV viral load was 66,321 copies/mL. The patient was admitted to the intensive care unit with antibiotic therapy including intravenous levofloxacin (750mg, QD), tigecycline (50mg, every 12 hours) and trimethoprim/sulfamethoxazole (1200/240 mg, every 6 hours). The sputum, urine and blood cultures showed no bacterial growth. The clinical condition greatly improved and CXR showed nearly complete resolution of the lung infiltration after one week of therapy. The procalcitonin level dropped to 0.48 ng/mL. However, the second hit of pneumonia and septic shock developed on the day 11 of the hospitalization, followed by rapid clinical deterioration without response to the same antibiotic regimen. Follow-up CXR showed worsening infiltrates over left lung field. The WBC was 3,000/μL; band, 13.0 %; monocyte, 13.0 %; platelet count, 21,000/uL; CRP, 130.0 mg/L; and procalcitonin, 48.21 ng/mL. A arterial blood gas showed pH, 7.319; PCO2, 33.0 mmHg; PO2, 67.9 mmHg; base excess, -7.5 mmol/L; FiO2, 45% with a P/F ratio of 150.9 mmHg. Meanwhile, hemodynamic support could not rescue the patient. The families decided palliative therapy and the patient passed away on the day 13 of the hospitalization. The results of sputum and blood CMV-PCR obtained on day 12 were both positive. Parental ganciclovir was not given in time.

Conclusion: We report a second hit of fatal pneumonia in a patient with HIV infection, who initially experienced a good therapeutic response to pneumonia suspicious of PCP. Concurrent CMV reactivation was detected in the sputum and blood. Although CMV has received less attention than PCP, this case might highlight the necessity of early diagnosis of CMV infection and appropriate ganciclovir therapy for HIV patients.