

中文題目：在急診室早期偵測到麴菌抗原血症於一位嚴重流感 A 型(H1N1)病人

英文題目：Early Detection of *Aspergillus* Antigenemia for A Patient with Severe Influenza A(H1N1) in the Emergency Room

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Background: An influenza epidemic peak in February 2016 caused chaotic situations to the health care facilities and record-breaking death toll in Taiwan. Early identification of *Aspergillus* co-infection in severe influenza patient might persuade physicians for early antifungal therapy.

Case Report: The 64 y/o man of hypertension and chronic cigarette smoking suffered from general malaise, soreness, cough and fever for 3 days. He also had nausea, diarrhea and progressive dyspnea. His son had common cold for one week. He was brought to our Emergency Room on February 26, 2016. As severe hypoxia (PaO₂ 46.9 mmHg), he was intubated with endotracheal tube. Influenza A rapid antigen test of throat swab revealed positive. CXR showed bilateral lung consolidation, suspected acute respiratory distress syndrome (ARDS) with an arterial PaO₂/FiO₂ (P/F) ratio of 76.8 mmHg. Other data included CRP, 142.9 mg/L; procalcitonin, 15.54 ng/ml; HbA1C, 9.2%; platelet count 121,000/ul; FDP, 43.4 ug/mL; and d-dimer, 7385.9 ng/mL(FEU). *Aspergillus* galactomannan Ag index was 0.88 (normal, < 0.5). He was admitted to the intensive care unit (ICU) on February 27. The cardiac echo revealed concentric left ventricle (LV) hypertrophy with adequate LV systolic function (LVEF, 73.6%). CXR showed worsening infiltrates over left lung field. Oseltamivir, cefpirome and levofloxacin had been used for 5 days, but fever remained. Then cefpirome was replaced by piperacillin-tazobactam. The initial sputum culture revealed normal mixed flora and few yeast-like organisms. Throat FluA-PCR revealed influenza A (H1N1). However, thrombocytopenia was noticed (36,000/ μ L) and hematuria with worsening renal function occurred. CXR showed blurring haziness in progression bilaterally. On March 4, fever recurred and blood pressure dropped. High-frequency oscillatory ventilation, vasopressors, and voriconazole were initiated. Nevertheless, the patient remained persistent desaturation with a P/F ratio of 80.9 mmHg. He passed away after 11 days of ICU stay.

Conclusion: Severe influenza with ARDS co-infected with invasive pulmonary aspergillosis (IPA) has been reported in the literature. Early detection of *Aspergillus* galactomannan Ag for the severe influenza patients in Emergency Room might offer the chance of early antifungal therapy. However, in our reported case, voriconazole was not initiated early enough to achieve therapeutic effect in time. Our case highlights the need of early alert for physicians to diagnose and treat IPA in severe influenza patients, especially with ARDS.