中文題目：侵入性肺麴菌病在流感重症病人發生診斷低估情形之探討

英文題目：**Underdiagnosing invasive pulmonary aspergillosis (IPA) in critically ill influenza patients**

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BACKGROUND: Invasive pulmonary aspergillosis (IPA) has been recognized as an emerging serious complication in critically ill patients with influenza infection. The diagnosis of IPA, according to the criteria as defined by European Organization for the Research and Treatment of Cancer/Mycoses Study Group (EORTC/MSG), is difficult to establish in critically ill influenza patients. The aforementioned criteria have been validated in immunosuppressed patients, while in critically ill without classic risk factors this classification has been questioned. The aim of this study is to address whether IPA is underestimated in critically ill influenza patients and their clinical characteristics and outcomes.

METHODS: We conducted a hospital-based, retrospective analysis made upon clinical data, diagnosis, treatment and outcomes of 32 patients with positive mycological evidence of Aspergillus spp. following severe influenza infection. The data was collected from February 2015 to March 2016 in intensive care unit (ICU) settings of Chi Mei medical center. The diagnostic approach of IPA was evaluated with both EORTC/MSG criteria (2008) and modified EORTC/MSG criteria. Subsequently, the diagnostic workout of these two criteria was compared and analyzed.

RESULTS: Based on EORTC-MSG criteria (2008), of 32 critically ill patients confirmed with influenza infection, only 2(6%) patients had proven IPA and none was categorized into probable or possible IPA. In contrast, according to modified EORTC/MSG criteria, 16(50%) patients were judged to have probable IPA. The proportion of proven IPA and possible IPA remained unchanged in both diagnostic approach. The significantly increased in the number of patients with probable IPA made the modified criteria have a higher sensitivity (56% versus 6%) than that of the original one. In our study, the modification of host factors with diabetes mellitus (in 75% of probable IPA) and solid organ malignancy (in 44% of probable IPA) prominently increased the cases for probable IPA. Broadening the clinical criteria with CXR features also appeared the significance for detecting probable IPA patients, as 94% of probable IPA cases met this criterion instead of typical lesions on chest computed tomography. The mortality rate of this patient population was 72%, which is similar to the previously reported data (59-95%). Patients who had proven IPA

based on modified EORTC/MSG criteria had mortality of 100% com- pared with 68% in patients with probable IPA.

CONCLUSIONS: The mortality of IPA in critically ill influenza patients remains high and promptly diagnosis and treatment are important. Our study suggests that the original EORTC/MSG criteria (2008) might contribute to underestimate the IPA in severe influenza patients. The modified diagnostic criteria need further prospective validation.