Invasive aspergillosis in patients with influenza admitted to the ICU


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Aim

• Measure the incidence of invasive pulmonary aspergillosis (IPA) over several seasons in patients admitted to the ICU with influenza pneumonia.

• Evaluate if influenza is an independent risk factor for IPA.

Background

• IPA typically occurs in an immunocompromised host. For almost a century, influenza has been known to set up for bacterial superinfections, but recently, non-immunocompromised patients with severe influenza were also reported to develop IPA along with influenza.

• We conducted a large multicentre case-control study.

Methods

• Data were collected from patients admitted to 1 of 7 ICUs for acute respiratory failure during seven consecutive influenza seasons.

• A case-control study was performed in the subgroup of non-immunocompromised patients.

• Cases were ICU patients with influenza without EORTC/MSG host factor.

• Controls were influenza-negative patients with severe community-acquired pneumonia (CAP) and without EORTC/MSG host factor.

Results

A case-control study was performed in the subgroup of non-immunocompromised patients. The independent association between influenza and IPA and the high mortality calls for better awareness and a more aggressive diagnostic approach. Future studies should evaluate if prophylaxis is useful.

Discussion

• In patients admitted to the ICU with influenza pneumonia, the incidence of invasive pulmonary aspergillosis was >10% in each of the 8 seasons.

• The average incidence of aspergillosis was 19% and was as high as 32% in the subgroup of patients who were immunocompromised at the time of their influenza infection. ICU mortality was very substantial at 45%.

• A case-control study confirmed that influenza was independently associated with IPA.

Conclusion

The independent association between influenza and IPA and the high mortality calls for better awareness and a more aggressive diagnostic approach. Future studies should evaluate if prophylaxis is useful.