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P1235 Invasive aspergillosis associated with H3N2 influenza A in critically ill patients

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Background: It has been suggested that *Aspergillus* may rapidly lead to invasive disease in the setting of severe influenza infection. A case-control study of Invasive Aspergillosis (IA) complicating severe influenza infection was conducted at an intensive care unit (ICU) in a tertiary university hospital (1000-bed) during 2016 - 2017 influenza season.

Materials/methods: From October 2016 to March 2017, patients admitted at ICU were tested for influenza infection using an in-house quantitative PCR. A case was defined as a patient with a positive respiratory culture for *Aspergillus*, within 31 days after influenza diagnosis, and IA was defined using EORTC/MSG guidelines and BULPA criteria. The control group included patients with Influenza virus infection without *Aspergillus* isolation. We evaluated: Influenza type and viral load (VL); *Aspergillus* species isolated; bacterial, viral and fungal pathogens detected in respiratory specimens; antifungal and influenza therapies; steroids and immunosuppressive treatment; hospitalization days and outcome.

Results: During our study period, 2361 patients were diagnosed for Influenza (2344 type A and 16 type B), 48 required ICU admission and 5 of them (10.4%) developed IA. Data recorded are shown in Table 1. In our patients, all influenza infections were type A (H3N2) and community-acquired, except three nosocomial. One case was proven aspergillosis and 4 were possible cases. Two patients exhibited an IA co-infection with 2 different *Aspergillus* species being *A. lentulus* involved in two cases.

	Aspergillosis Group (n=5)	**Control Group (n=20)**	***p* value**
Age (median ±δ)	67,8± 13,05	70,7 ± 7.97	0.53
Vaccinated (%)	60	55	1
Mortality (%)	100	35	**0.01**
Oseltamivir (%)	100	80	0.55
Steroids/immunosuppressant agents (%)	40	20	0.56
VL (log copies/10^3 cells)	6,7 ± 2,4	6,1 ± 1,7	0.52

Co-infection (%)	80	75	1

All five patients with IA had a poor outcome even when antiviral and antifungal therapies were administrated. There were no significant differences about the remaining parameters.

Conclusions: IA was a potential complication of severe Influenza type A (H3N2) infection in our hospital with a significant higher mortality. We emphasize the importance of IA co-infection caused by different *Aspergillus* species, especially cryptic species, intrinsically resistant to voriconazole.