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Abstract (poster session)

**Influenza admitted in intensive care units: a comparative study of seasonal and pandemic influenza A (H1N1) 2009**

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Objective: Pandemic A (H1N1) 2009 influenza was associated with an unprecedented rate of admission in intensive care units (ICU), mostly due to acute respiratory distress syndrome (ARDS). Characteristics of these patients were described, but they have not been compared to patients with severe seasonal influenza. Methods: We performed a retrospective study of all patients with documented influenza admitted in one medical ICU for influenza A between 1993 and March 2011. Patients were included if influenza was documented on respiratory samples by RT-PCR and/or immunofluorescence and/or cell culture and/or serology (complement fixation). A standardized questionnaire was used to extract data from medical charts, including demographics, comorbidities, influenza vaccination, date of 1st symptoms, hospital, and ICU admission, patients characteristics including body mass index and pregnancy, severity score (IGS-II), ARDS, treatment (including antivirals, corticosteroids, and mechanical ventilation), bacterial infection, and final outcome. Patients with influenza A (H1N1) 2009 were compared to patients with seasonal influenza, using nonparametric Mann Whitney test for quantitative variables, and Fisher exact test for categorical variables. Results: Between 1993 and 2011, 35 patients with documented influenza were admitted in our ICU, including 18 patients with seasonal influenza (1993-2006), and 17 patients with pandemic influenza A (H1N1) 2009. Patients with pandemic influenza were younger than patients with seasonal influenza, with a median age of 41 years [IQR, 29-55] vs 56 [41-68],  $P=0.04$ ), more likely to be obese (41% vs 6%,  $P=0.03$ ), and current smoker (65% vs 28%,  $P=0.01$ ). Influenza-related symptoms, and complications, were not different between the 2 groups, including ARDS, bacterial infections, and in-ICU mortality (respectively, 18% for pandemic, and 33% for seasonal influenza). The diagnosis delay (time between admission and influenza documentation) was shorter for pandemic influenza patients (median 1 day vs 4,  $P=0.01$ ). More patients with pandemic influenza were treated with oseltamivir (88% vs 11%,  $P<0.01$ ). Conclusion: As compared to severe seasonal influenza, severe pandemic influenza A (H1N1) 2009 affected younger patients, more frequently obese and smokers. Although pandemic influenza A (H1N1) 2009 was diagnosed faster, and more likely to be treated with oseltamivir, outcomes were no significantly different.