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Paper Poster Session

Influenza - clinical epidemiology

Predictors of mortality in the infection by influenza virus in geriatric population

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Background: It has been clearly documented that influenza infections in persons over age 65 can result in serious complications leading to pneumonia, chronic disease exacerbations, hospitalization, and death. We describe the prognostic factors of mortality in a group of patients older than 65 years.

Material/methods: We perform a retrospective, comparative study about the prognostic factors of mortality in a group of patients infected with influenza virus. A case was defined as a patient who was hospitalized for >24 h with influenza-like symptoms and had laboratory detection by the reverse transcriptase-polymerase chain reaction test of influenza virus. For the purposes of this study, patients were divided into two groups: dead and survival patients. The study population comprised all adult patients, who were admitted to Hospital Universitario Central de Asturias between September- March 2014 and tested for the presence of Influenza infection based on clinical suspicion. Continuous values were expressed as mean and compared using Student t test or U of Man-Whitney. Categorical values were expressed as absolute and relative frequencies and were compared using Fisher's exact test or χ^2 test. A p value lower than to 0.05 was considered as statistically significant. A binary logistic regression analysis using a step-wise (Wald) to determine the factors influencing the mortality of the infection and the efficacy of the different therapies was used.

Results: during the period of the study 252 patients were diagnosed with infection by the influenza virus, 17 of them died as a direct result of the infection. Mortality was significantly higher in women ($p = 0.027$, OR 3.303 [1048-10413]). Although age was higher in mortality group of patients (72 [13] vs 67 [19] $p = 0.68$) did not reach significance. Regarding the presence of mono or coinfection by influenza A and B and between the different genotypes not significantly differences were found. Neither the simultaneous isolation of other viruses significantly influenced mortality. However the viral load of influenza was higher in dead patients (4.979.736 [109.187.236] vs 3.328.597 [19.187.237] $p = 0.048$ OR 3.301). Only five deceased patients were treated with oseltamivir ($p = 0.484$) with no influence on evolution. All dead patients had a previous severe respiratory failure ($p = 0.0001$) and 16 a sepsis of respiratory origin ($p = 0.0001$). Only one of the patients who died had received vaccination ($p = 0.020$, OR 6.18). Multivariate analysis showed significance only for the presence of respiratory failure ($p = 0.011$) and sepsis ($p = 0.001$)

Conclusions: Mortality by influenza virus is low but is more frequent in female, elderly patients without vaccination. Viral load of influenza virus would be a predictor factor of mortality.