

C. Garcia Vidal¹, I. Sanchez¹, A. Simonetti¹, J. Burgos¹, D. Viasus¹, M. Martin¹, V. Falco¹, J. Carratalà¹

¹Hospital universitari de Bellvitge, Barcelona, Spain

Objectives: The objective of the study was to compare the outcomes of patients with *Legionella* pneumonia (LP) treated with a fluoroquinolone or a macrolide, and especially those treated with levofloxacin and azithromycin. **Methods:** Observational analysis of consecutive sporadic cases of LP, in non-immunocompromised patients, requiring hospitalization between 2000 and 2014 in two university hospitals in Barcelona. To control for confounding, the effect of therapy was assessed by multivariate analysis. A propensity score for receiving different antibiotics was added to the model. The goodness of fit of the final model was assessed by the Hosmer-Lemeshow test. **Results:** We documented a total of 458 episodes of LP. The median age of patients was 61 years (IQR 51-71), and 73% were male. At least 1 comorbid condition was present in 50.2% of patients and 40% were classified into high-risk classes according to the PSI (groups IV-V). One hundred and nineteen (26%) patients received inappropriate empirical antibiotic therapy at hospital admission. Fluoroquinolones were the directed therapy in 184 (40%) patients and macrolides were given to 256 (56%) patients. Levofloxacin was administered to 182 patients and azithromycin to 182 other patients. The median time from patient arrival at the emergency department until antibiotic administration was equal in both groups. No differences were found in median time to defervescence (2 days; IQR 1-3 and 2 days; IQR 1-4, respectively) and median time to clinical stability (3 days; IQR 2-5.75 and 3 days; IQR 2-5) in patients treated with fluoroquinolones or macrolides. No differences were found when patients treated with levofloxacin and azithromycin were compared (2 days; IQR 1-4 and 2 days; IQR 1-3, respectively and 3 days; IQR 2-6 and 3 days; IQR 2-5). The early case-fatality rate was 1.1% (5 of 458 pts), and the overall case-fatality rate was 4.1% (19 of 458). Independent factors associated with overall mortality were comorbid conditions (OR 3.96, 95%CI 1.01-15.62) and ICU admission (OR 7.52, 95%CI 2.08-27.31). Neither univariate nor multivariate analysis showed that the use of a fluoroquinolone or a macrolide (as well as the direct comparison between levofloxacin and azithromycin) had any impact on the risk of death. Incorporation of the propensity score into the models did not change this finding (goodness of fit: 0.945). **Conclusion:** In our study, the in-hospital case-fatality rate of LP was low. No significant differences in time to defervescence, time to clinical stability and case-fatality rates was documented when comparing patients treated with fluoroquinolones with those receiving macrolides.