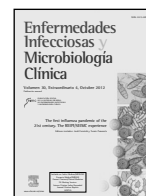




Enfermedades Infecciosas y Microbiología Clínica

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Prologue

Álvaro Pascual Hernández^{a,*} and Jerónimo Pachón^b

^aPresident of the Spanish Society of Infectious Diseases and Clinical Microbiology, Clinical Unit of Infectious Diseases and Microbiology, Hospital Universitario Virgen Macarena, Sevilla, Spain

^bScientific Coordinator of the Spanish Network for the Research in Infectious Diseases, Instituto de Salud Carlos III, Instituto de Biomedicina de Sevilla (IBIS), Hospital Universitario Virgen del Rocío/CSIC/Universidad de Sevilla, Sevilla, Spain

This special issue of ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA (EIMC) presents to the medical community and to the health care system the knowledge gained by several important Spanish research groups on the first influenza pandemic of the 21st century, caused by the influenza A(H1N1)pdm09 virus. Most of these research groups belong to the Spanish Network for Research on Infectious Diseases (REIPI) and the Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC). Once again, with this issue of the Official Journal of the SEIMC, these two institutions make a contribution to improved care and prevention of infectious diseases. In this edition, we cover influenza, an important and recurring public health problem. It is our obligation as health researchers to provide this new information to the medical and health care communities as well as to the biotechnology system.

The invited Editors come from the clinical and microbiology fields, and they are all recognized experts worldwide in respiratory diseases and virology. They performed several studies on the A(H1N1)pdm09 influenza pandemic. We thank them, and all the authors of this special issue, for their extraordinary effort in bringing together thirty-six experts from clinical and basic research on virology, infectious diseases, and public health, from 25 Spanish institutions. In addition, they collaborated with researchers from the Spanish Influenza Surveillance System, the Biomedical Research Network Centres for Respiratory Diseases (CIBERES) and Public Health (CIBERESP), and the National Health Institute Carlos III. This collaboration reflects the multidisciplinary approach needed to provide clinical, diagnostic, prevention, therapeutic, and innovative approaches to control the burden of disease caused by the influenza viruses.

The most important aspects regarding influenza are covered in this issue. First, the epidemiology of the A(H1N1)pdm09 virus and the other influenza viruses, in addition to the simultaneous presence and co-infection of other respiratory viruses, are addressed. Another section is devoted to the evolutionary characteristics of the A(H1N1)pdm09 virus and its sensitivity to neuraminidase inhibitors. Factors influencing the severity of infectious diseases depend on the innate immune response and the consequent inflammatory cascade. During the 2009 influenza pandemic, an unusual number of primary viral pneumonia cases requiring hospital admission was found, in some cases leading to severe disease and respiratory failure. In this context,

the immune-pathogenesis of the A(H1N1)pdm09 virus has been extensively studied in order to characterize the inflammatory response and to evaluate therapeutic interventions and specific antiviral treatments.

Second, several clinical aspects of the 2009 pandemic and the virus are included in this special issue. As previously noted, pneumonia and severe influenza disease were reported from the beginning of the pandemic. Several cohort studies were carried out to identify the clinical characteristics, risk factors for severe disease (including primary viral pneumonia), the frequency and features of the secondary bacterial pneumonia in the influenza pandemic setting, the impact of the A(H1N1)pdm09 virus on immune-depressed patients as well as on recipients of solid organ and hematopoietic stem-cell transplantation, the outcomes of influenza disease and factors associated with mortality. Three manuscripts in this monograph review these aspects.

The most important influenza intervention, from a public health point of view, is the yearly vaccination and in the case of a pandemic, the vaccination of at-risk populations. In the absence of vaccination, antiviral influenza treatment was frequently used for hospital-admitted patients and in severe influenza cases caused by the A(H1N1)pdm09 virus. Both vaccinations and antiviral treatments are reviewed in the context of the 2009 pandemic. As one author notes, one of the most important tasks is to increase coverage by convincing the population in developed countries of the efficacy and safety of the influenza vaccine, and another is to make the vaccine affordable to developing countries.

Finally, based on data gathered for several seasons after the 2009 influenza pandemic, the final manuscript summarizes the epidemiology, virology, and clinical data on the influenza A(H1N1)pdm09 virus during the post-pandemic yearly influenza seasons.

The important work performed by the authors of this special issue of EIMC has furthered understanding of the epidemiology, virology, pathogenesis, disease burden, clinical characteristics in the general population and in immune-suppressed patients, and the outcomes of this new influenza A virus. We hope that our readers find it useful for their clinical practice and for the best clinical care of their patients, both at the primary care level and in the hospital setting.

Conflicts of interest

The authors declare that they have no conflicts of interest in this article.

*Corresponding author.

E-mail: apascual@us.es (A. Pascual Hernández).