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BOOK OF ABSTRACTS

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Epidemiology of invasive meningococcal disease in Portugal in the last decade – 2007-2016

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Introduction: A surveillance system of meningococcal disease (MD) was implemented in Portugal in October 2002, becoming mandatory the clinical and laboratory notification of all cases. By that time, the National Reference Laboratory (NRL) of Neisseria meningitidis at the National Institute of Health Dr. Ricardo Jorge, Lisbon, created a hospital laboratory network, which is still managed by the institute, which supports the laboratory based surveillance of DM. To fulfil this purpose laboratories should send meningococcal isolates as well as negative culture clinical samples from suspected cases for lab confirmation and genotyping to the NRL. Additionally, vaccination against MenC started in 2002 and, in 2006, MenC vaccine was introduced in the national immunization programme, addressed to children under one year of age. Since 2007 the number of invasive C strains became residual. In April 2014 the multi-component vaccine 4CMenB was introduced in the market.

Aim: Presenting data of MD surveillance referring to the last decade, 2007–2016.

Methods: Confirmation of cases with negative culture was performed by real time PCR targeting *ctrA* and *sodC*. Molecular characterization of *N. meningitidis*, either isolates or DNA from clinical samples, included group, subtype, FetA, ST.

Results: In the last decade 764 cases (677 confirmed and 87 possible/probable) of MD were reported in Portugal. The incidence ranged from 1.11 cases per 100,000 inhabitants in 2007 to 0.41 in 2016. The observed decreasing incidence is mainly due to age group under 12 months in which a 66.6% drop in the incidence rate between 2013 and 2016 was observed. Group B has been the most frequent (61.1% in 2014 to 90.5% in 2008 of confirmed cases). Strains Y were the second most frequent, increasing the number of isolates since 2007. Group W and C were residual. Group B strains presented a large genetic diversity. The most common clonal complexes (cc) within B strains were cc41/44 (±25% of all cc), cc269, cc162 and cc213, the latter present in an increasing proportion of cases since 2009. Group Y and C exhibited a clonal character being mostly cc23 and cc11 respectively.

Conclusion: The vaccination against MenC was very effective and the number of cases due to C strains became very low since 2007. In the last decade the incidence of MD has being decreasing with a marked decreasing in age group under 12 months of age. Group B was the most frequent and presented a great genetic diversity.