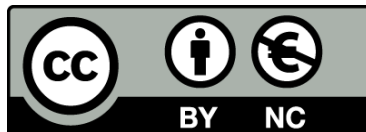




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Impact of molecular methods in the analysis of the invasiveness of *Streptococcus pneumoniae*

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OBJECTIVES

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According to the work hypothesis proposed, the objectives of the studies composing this doctoral thesis were:

Paper 1: High invasiveness of pneumococcal serotypes included in the new generation of conjugate vaccines

Objective 1: Determine the invasive disease potential of serotypes isolated by culture causing invasive pediatric disease in the era of conjugate vaccines in Catalonia, Spain.

Objective 1.1.: Evaluate the potential coverage of the most recent conjugate vaccine (PCV13) on the main serotypes found causing invasive disease in our area.

Objective 1.2.: Evaluate whether implementation of PCV7 had resulted in significant changes in the invasive disease potential of the most frequent serotypes circulating in the area.

Paper 2: Estimation of the invasive disease potential of *Streptococcus pneumoniae* in children by the use of direct capsular typing in clinical specimens

Objective 2.: Determine the invasive disease potential of pneumococcal serotypes causing invasive pediatric disease in the era of conjugate vaccines in Catalonia, Spain, by adding molecular techniques to both the identification and capsular typing of *Streptococcus pneumoniae* in direct sample (without culture).

Objective 2.1.: Establish the rate of co-colonization present in the children population of our geographical area.

Objective 2.2.: Analyze the changes in serotype distribution between the PCV7 era and the new conjugate vaccines era (PCV10-13).

Paper 3: Serotypes and clonal diversity of *Streptococcus pneumoniae* causing invasive disease in the era of PCV13 in Catalonia, Spain

Objective 3: Determine the pneumococcal serotypes and clonal types causing IPD in Catalonia, Spain, in the era of PCV13.