

Session: P002 Community-acquired respiratory infections

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**Pertussis infection in Navarra (2011-2016)**

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**Background:** Pertussis (whooping cough) is a respiratory disease usually caused by *Bordetella pertussis* and *B. parapertussis*. It may cause severe complications, mainly in children under 1 year. Despite of the high vaccination coverage, it has been observed an increased frequency of pertussis in last years as in other Regions of Spain. The young infant group is considered a key indicator of pertussis activity and the primary aim of the pertussis vaccination programme is to minimize disease, hospitalization and death in young infants. The aim of this study is to assess the epidemiological features of pertussis infections in our region.

**Material/methods:** Retrospective study including all pertussis cases notified to the Public Health Institute of Navarra (640.339 inhabitants) between 1/1/2011 and 31/10/2016. In Navarra, DTaP vaccine is administered at 2, 4, 6, 18 months. Since April 2015, dTpa is administered to pregnant women at 27-36 gestational week. Variables recorded: age, sex and vaccination status. Complete vaccination status definition: administration of at least three doses. Microbiological diagnosis was done in nasopharyngeal aspirate or swab by RT-PCR (SmartBp/Bpp, Cepheid).

**Results:** 274 cases of pertussis were reported (2011: 21 cases; 2012: 32 cases; 2013: 51 cases; 2014: 34 cases; 2015: 92 cases; 2016: 73 cases). 55.1% were male. Mean age 18.3 years (10 days-93 years). Cases distribution by age: 20.8% (57) < 1 year (48 cases 0-6 months); 17.5% (45) 1-4 years; 28.5% (78) 5-14 years; 29.2% (80) 15-64 years and 4.7% (13) ≥65years. 69.3% cases were diagnosed by RT-PCR. Seasonality: most of cases, 133/274 (48.7%) occurred between May and August. Regarding the vaccination status, out of 180 cases under 15 years, 108 (59%) received at

least 3 doses of vaccine; there were 26 cases in babies < 2 months. Pertussis vaccination status by age was: 67% 6-12 months; 44% 12-18 months; 65% 18m-6 years and 74% 6- <15 years. From April to October 2016, there were 8 babies <1 year diagnosed with pertussis. Information of maternal vaccination was available in 7 cases, 4 out of them (57.1%) the mother had been vaccinated with dTpa during pregnancy.

**Conclusions:** During the study period, there was an increase in cases of whooping cough in our region. The majority of cases, 66.8% occurred in younger than 15 years and most of them, in children with at least three doses of vaccine. The remaining cases occurred in adults. There were 26 cases in babies < 2 months. It is necessary to include pertussis within differential diagnosis.