TITLE: EPIDEMIOLOGICAL CHARACTERIZATION OF XBAI0039, A HIGH DISSEMINATION POTENTIAL GENÉTIC PROFILE OF BORDETELLA PERTUSSIS IDENTIFIED IN BRASÍLIA, DISTRITO FEDERAL

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Bordetella pertussis (BP) is a gram-negative bacterium that infects the respiratory tract causing whooping cough or pertussis. The disease affects mainly young children and was one of the most common causes of infants' mortality before vaccine development in 1940. In Brazil, since 1990, there has been a significant incidence decrease of whooping cough. However, in 2011, there was a sudden increase in the number of cases. In Distrito Federal (DF), 19 cases were confirmed in 2010, 301 in 2014 and 106 in 2015. The majority of confirmed cases were reported from unimmunized babies or children in the process of immunization. The molecular epidemiological characterization by PFGE (*Pulsed Field Gel Electrophoresis Macrorestriction Analysis)* of the isolated strains in the DF showed that a specific genetic profile (named XbaI0039) was selected from August 2012 to August 2014. The XbaI0039 prevalence increase from 6% to 70% in the period analyzed. Among all 92 isolates, 47 were identified as XbaI0039. Considering the identification of *XBAI0039* as a high dissemination potential strain we presented the epidemiological data of this genetic profile. For this aim, we used the following XbaI0039 strains data: isolation time, geographic area of disease notification, age and gender patient. The most age group identified was 2-6 months babies (23 isolates), followed by babies up to 1 month (15 isolates). It was also observed cases in children between 7 months to 5 years (6 isolates), 6 to 12 years (1 isolate) and more than 12 years (2 isolates). The XbaI0039 isolates were from 18 localities: the majority of XbaI0039 were isolated from Ceilândia and Sobradinho (15% or 7 isolates for both), followed by Planaltina (11% or 5 isolates). Differences about the distribution between gender there were not observed: 24 (52%) XbaI0039 strains were isolated from female and 23 (48%) from male. The results showed that XbaI0039 strains were found mainly among 2-6 months babies, Ceilândia

and Sobradinho. More characterization of the X*BAI0039* strains is need for determinate what is key factor that guaranties their high dissemination potential among young children.

Keywords: B.pertussis ,whooping cough, epidemiology ,clinical isolates