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Title: Persistent wheezing after bronchiolitis: 5 years of follow up

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Body: Background: We have showed the association between Rhinovirus (RV) infection, atopic predisposition and recurrent wheezing 1 and 3 yrs after bronchiolitis. Aim: Identify risk factors for persistent wheeze 5 yrs after bronchiolitis. Material and methods: We enrolled 179 infants (median age 2 m, range 7 d -11 m) hospitalized for bronchiolitis during the period October 2004-May 2007. Demographic and clinical data were obtained from patient's medical files. Parents were interviewed by phone with a structured questionnaire for 5 consecutive yrs. Five years after bronchiolitis 60 children performed lung function tests (LFT) and skin prick test (SPT). Results: 112 families (62,6%) answered. 35 children never had episodes of wheezing (NW) whereas 30 children presented episodes of wheezing each year for all 5 years (PW). The percentage of children with eosinophils >400 cells/ μ l was significantly higher in children with PW than in those who NW (0 vs 13.3%; $p=0.02$). 13,3% of children with PW had bronchiolitis from RV comparing to 2,8% of children who NW. 80% of infants with bronchiolitis from RV had PW, comparing to 34,8% of infants with bronchiolitis from Respiratory Syncytial Virus. 73,3% of children with PW was born by cesarean section (CS), comparing to 26,7% born by natural childbirth ($p=0.07$). The association between CS and PW was confirmed also by logistic regression analysis ($p<0,05$). No significant difference was observed for LFT and SPT results between PW and NW. Conclusions: Eosinophilia, RV infection and CS seem to be associated with PW after bronchiolitis.