

## Rationale

An association between *M. pneumoniae* (MP) infection and asthma exacerbations has been described. However, the role of *M. pneumoniae* in children with asthma is controversial. There is no information about this condition in Colombia. The aim of this study was to describe the prevalence and risk factors for the *M. pneumoniae* infection in children with asthma exacerbation.

## Methods

Children from 2 to 15 years old with asthma diagnosis for at least one year and consulting because of an exacerbation of their asthma were included after signing an informed consent (parents and able children) from December, 2010 to February, 2012. Demographic and clinical data were registered. Polymerase chain reaction (PCR) for detecting MP was performed by amplifying a fragment of P1 gene on nasopharyngeal aspirate samples. Groups with and without MP were compared using chi square, Fisher's exact, and *Student t* tests.

Table. Characteristics of subjects according to *M. pneumoniae* (MP) infection

	MP positive (n=21)	MP negative (n=148)	p
Age, years	6.3 3.6	7.3 3.3	0.203
Gender, male	12 (57.1%)	80 (54.1%)	0.790
Short-acting $\beta_2$	12 (57.1%)	113 (76.4%)	0.060
Anticholinergics	0 (0%)	5 (3.4%)	0.999
Inhaled corticosteroids	8 (38.1%)	101 (68.2%)	0.007
Antileukotrienes	2 (9.5%)	30 (20.3%)	0.373
Antihistamines	6 (28.6%)	34 (23.0%)	0.587
Severity*			
Mild	8 (38.1%)	58 (39.2%)	0.404
Moderate	13 (61.9%)	79 (53.4%)	
Severe	0 (0%)	11 (7.4%)	
Hospitalization	4 (19.0%)	37 (25.0%)	0.552
Pneumonia	3 (14.3%)	18 (12.2%)	0.729
Antibiotic treatment	4 (19.0%)	25 (16.9%)	0.762

\* Severity of exacerbation

## Results

We included 169 children with exacerbation of asthma. The overall prevalence of MP was 12.4%, (95%CI: 7.4-17.5), 18.2%, (95%CI 8.7-27.6) in children from 2 to 5 years, and 8.7%, (95%CI: 3.2-14.3) in older than 5 years (p:0.07). Treatment with inhaled steroids during the previous six months was less frequent in patients with MP infection than in patients without MP (38.1 vs. 68.2%) (p:0.007). No other differences between children with or without MP were found (Table). Positive samples for MP were detected only during 4 of the 14 months of follow-up: Jul/2011: 14.3%, Dec/2011: 19%, Jan/2012: 4.8%, and Feb/2012: 61.9%.

## Conclusions

The prevalence of MP infection of 12.4% in children with asthma attacks is similar to that described in the literature. The distribution of cases during the period of recruitment suggests a temporal pattern. No association between MP infection and severity of the asthma exacerbations was found in this study. Larger studies are needed to evaluate the clinical impact of MP infection in patients with asthma and the significance of the association between a lower use of inhaled steroids and MP infection found in this study.