Predictive factors of persistent wheezing in preschool children

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INTRODUCTION

Preschool children have higher asthma morbidity than do any other age group. Proper identification of children at risk of persistent asthma at preschool age may predict long-term outcomes and improve treatment and preventive approach. The objective of our study is to analyse the outcome of asthmatic infant and to identify the predictive factors of persistent asthma in the preschool period.

METHODS

We made a propspective study including 40 preschool children (aged under 5 years) who presented symptoms of asthma from January 2013 to December 2015. For each patient, we noted allergic background, clinical severity of asthma, social and environmental factors, allergic skin tests and respiratory outcome after at least two years of follow up.

RESULTS

- 40 patients: boys=24 ; girls=16 → Sex Ratio=1.5
- Mean period of follow= 36 months
- 20 patients → persistent wheezers
- 20 patients →transient wheezers

✓ Epidemiology

	Persistent wheezing	Transient wheezing	p
Sex-ratio	1	2.3	0.33
Age at diagnosis	25 months [8-56]	31 months [8-58]	0.22
Weight at birth	3000 g +/- 709 g	3400 g +/- 654g	0.49
Breast feeding	10	13	0.50
Breast feeding > 6 months	5	7	0.55

✓ Familial allergy

	Persistent wheezers	Transient wheezers	p
Maternal allergy	8	7	0.74
Paternal allergy	6	7	0.82
Brotherhood allergy	6	5	0.11
Familial allergy	12	32	0.91

✓ History of asthma

	Persistent wheezers	Transient wheezers	p	OR
Mother's asthma	2	1	0.09	-
Father's asthma	5	3	0.002	9.9

✓ Socio-economic conditions and environment in persistant wheezers

- bad socio-economic conditions n= 8 / p=0.97
- Maternal smoking n=3 / p=0.63
- Paternal smoking n=11 / p=0.89
- Humidity n=13 / p=0.29

✓ Personal allergy

	Persistent wheezers	Transient wheezers	p
Atopic dermatitis	3	4	0.62
Rhinitis allergy	4	0	0.04
Cow's milk allergy	0	1	0.3

✓ History of bronchiolitis

Persistent wheezers: n= 18
Transient wheezers: n= 14
p = 0.11

✓ Onset of wheezing < 6 months

Persistent wheezers: n= 18
Transient wheezers: n= 11
p = 0.01

✓ Allergic skin tests

Positive allergic skin tests (p=0,367)

✓ Positive allergic skin tests to mites

Persistent wheezers: n=6
Transient wheezers: n=1
p=0,04

CONCLUSION

Several risk factor related to genetic, prenatal and postnatal environment may be associated with persistant preschool wheezing in adulthood. Factors of persistent wheezing in our study were: history of a father's asthma, onset of wheezing<6 months, rhinitis allergy and positive skin tests to mites. . Identifying those factors may help to improve the managment of this disease.