

Prevalence of Atopic Dermatitis in Adults With Moderate to Severe Asthma Managed at a Specialized Dermatology and Pulmonology Referral Center in Southern Brazil

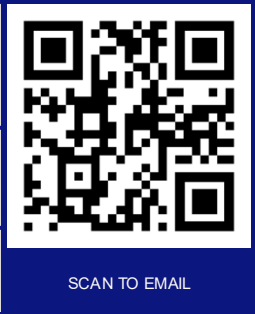
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Learning Objective To acknowledge the prevalence of past or current atopic dermatitis (AD) in adult patients with moderate to severe asthma and their clinical profile

Takeaway Message The estimated prevalence of AD in this study (17%) aligns with the prevalence reported in the literature (15%). Participants with active AD had only mild disease.

Conflicts of interest None **Correspondence to** marceloblucca@gmail.com



Atopic dermatitis and asthma

Type 2 adaptive immune response

Both diseases share a similar immune pathophysiology involving IL-4, IL-5, IL-10, and IL-13, that recruit types 2, 6, 7, and 8 helper T cells (Th), along with increased eosinophil count and IgE production.

Risk factor

AD in childhood is a risk factor for asthma throughout life (OR 3.03 [95% CI 2.64–3.47]).

Atopic march

Typical progression of allergic diseases from atopic dermatitis in early childhood to food allergy, allergic rhinitis, and asthma later in life.

Context

Some studies show the incidence and prevalence of asthma in patients with AD, but only a few show the prevalence of previous or current AD in patients with asthma.



Objectives

To estimate the prevalence of past and/or current history of AD in adult patients with moderate to severe asthma.

To evaluate the clinical profile of asthmatic patients with a history of AD compared to those without a history of AD.

Methods

Study design

Cross-sectional study
Convenience sample from the moderate/severe asthma clinic in Santa Casa de Porto Alegre hospital, Brazil.
Approved by local ethics committee.

Data collection

Standardized questionnaire.
Skin examination by a dermatology-trained physician.
SCORAD, EASI and DLQI when applicable.

Inclusion criteria

Adults with >18 years of age
Moderate-to-severe asthma
Informed consent (signed).

Statistical analysis

IBM® SPSS® Statistics v.26.
Chi² test for categorical variables.
Fisher's exact test for continuous variables.
Likelihood ratio for confidence intervals.



Results

Variable	Mean \pm SD or n (%)
Female	46 (86.8)
Age	57.7 \pm 12
Age of onset of asthma	20.6 \pm 18
↘ Childhood	29 (54.7)
↘ Adolescence	6 (11)
↘ Adult	16 (30)
↘ Elderly	1 (1.9)
First-degree relative with asthma	32 (60.4)

Variable	Mean \pm SD or n (%)
Drugs in use for asthma	2.8 \pm 0.9
1	3 (5.7)
2	16 (30.2)
3	24 (45.3)
4	8 (15.1)
5	2 (3.8)
Use of biologics for asthma	16 (30.2)

Table 1. Epidemiological profile of study participants (n = 53)

Results

Variable	Mean \pm SD or n (%)
Previous AD	9 (17)
Current AD	3 (5.7)
Previous or current AD	9 [17% (CI95% 8% – 28%)]
First-degree relative with AD	5 (9.4)
Skin lesion (any)	9 (17)
AD lesion (any)	7 (13.2)

(cont.) **Table 1.** Epidemiological profile of study participants (n = 53)

Results

Variable	Mean \pm SD or n (%)		p-value
	AD (n = 9)	No AD (n = 44)	
Female	7 (77)	39 (89)	0.5
Age	49.6 \pm 9	59.3 \pm 12	< 0.05
Age of onset of asthma	12.9 \pm 18	22.4 \pm 18	0.1
» Childhood	6 (66)	23 (52)	0.9
» Adolescence	1 (11)	5 (11)	
» Adult	2 (22)	14 (32)	
» Elderly	0	1 (2)	
First-degree relative with asthma	6 (66)	26 (59)	0.7
Number of drugs in use for asthma	3.1 \pm 0.9	2.75 \pm 0.9	0.3

Table 2. Comparison between participants with and without AD (previous or current)

Results

Variable	Mean \pm SD or n (%)		p-value
	AD (n = 9)	No AD (n = 44)	
Use of biologics for asthma	5 (56)	11	0.1
First-degree relative with AD	2 (22)	3 (7)	0.1
Skin lesion (any)	4 (44)	5 (11)	< 0.05
AD skin lesion (any)	3 (33)	4 (9)	0.08

(cont.) **Table 2.** Comparison between participants with and without AD (previous or current)

Results

ID	Sex	Age	Age of onset of asthma (y)	Drugs in use for asthma	Biologics for asthma	Age of onset of AD (y)	Current AD	Current treatment for AD	Skin examination	DLQI	EASI	SCORAD
A	F	52	1	3	No	8	No		Normal			
B	M	42	Unknown	2	No	8	No		Keratosis pilaris			
C	M	59	55	3	Yes	15	No		Normal			
D	F	54	16	3	Yes	8	Yes	Emmolients and topical corticosteroids	Atopic foot	19	4	30.5
E	F	58	23	2	Yes	Unknown	Yes	None	Xerosis	1	0	14
F	F	45	4	3	No	10	No		Non-DA skin lesion			
G	F	57	4	3	No	1	No		Normal			
H	F	28	0.3	3	No	Unknown	Yes	Emmolients	Normal	0	0.2	11
I	F	52	0	4	Yes	Unknown	No		Normal			

Table 3. Clinical profile of participants with previous or current AD (n = 9)

Conclusions

Prevalence of AD in patients with asthma

The prevalence of 17% found in this study aligns with previous published data that estimated a 15% prevalence.

Clinical profile of participants

Participants with asthma and previous or current AD had mild disease, were younger and had more skin lesions of any kind.

Limitations

- Small sample
- Adult participants only
- Moderate-to-severe asthma only
- Probable recall bias