

Patients with allergic and eosinophilic asthma in the German Severe Asthma Registry

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Introduction

- Patients with severe asthma are often uncontrolled despite best available treatment, so the addition of specific (personalized) anti-inflammatory treatments is recommended to improve asthma control
- Personalized treatment strategies and specific anti-inflammatory therapies require a precise diagnosis of asthma phenotypes



- **Aim: To evaluate the prevalence of allergic and eosinophilic asthma phenotypes in the German Severe Asthma Registry**

Patients

- 308 adult patients (mean±SEM 50.3±13.5 yrs., 93% partly or uncontrolled) with severe asthma in the German Severe Asthma Registry (www.german-asthma-net.de)

History of allergy symptoms, results of skin prick test, total and specific serum IgE, blood cell differentials



- Prevalence of allergic and eosinophilic phenotypes in asthma patients

Results

Signs of allergic asthma (AA)

- 121 adult patients (39.3%)
- Characterized by allergy symptoms and a positive skin prick test and/or specific IgE against common allergens (most frequently house dust mites and grass pollen) with no elevated blood eosinophils
- 53 (44%) of these patients are treated with omalizumab (median dose 300 mg/month)

Parameter	Mean±SD / Median (range)
Age at diagnosis (years)*	21.9±17.6
FEV1 (% pred.)	65.3±20.1
Eosinophils/μl blood	128 (0-295)
Exhaled NO (ppb)	23 (7-300)
Total serum IgE (IU/ml)	222 (4-4023)
BMI**	28.4±6.2

Signs of eosinophilic asthma (EA)

- 50 adult patients (16.2%)
- Characterized by >300 eosinophils/μl blood with no clinical or serological signs of allergic disease

Parameter	Mean±SD / Median (range)
Age at diagnosis (years)*	38.7±15.4
FEV1 (% pred.)	58.7±21.7
Eosinophils/μl blood	586 (300-8500)
Exhaled NO (ppb)	51 (16-258)
Total serum IgE (IU/ml)	156 (18-5000)
BMI**	25.9±6.5

Signs of allergic and eosinophilic asthma

- 75 adult patients (24.4%) had signs of allergy and elevated blood eosinophils

Parameter	Mean±SD / Median (range)
Age at diagnosis (years)*	28.6±15.8
FEV1 (% pred.)	62.6±20.3
Eosinophils/μl blood	512 (300-11000)

Parameter	Mean±SD / Median (range)
Exhaled NO (ppb)	44 (10-228)
Total serum IgE (IU/ml)	310 (25-2345)
BMI**	26.9±5.6

* p<0.001, **p=0.031

Conclusion

- These results confirm the presence of clinically relevant phenotypes among severe asthma patients
- Simple diagnostic criteria (e.g. allergy tests, serum IgE, blood eosinophils) are sufficient to identify appropriate patients for targeted therapies