

# Allergic and eosinophilic phenotypes 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 the disease outcome
- Personalized treatment strategies and specific anti-inflammatory therapies require a precise diagnosis of asthma phenotypes

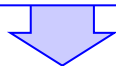


- Aim: To evaluate the prevalence of allergic and eosinophilic asthma phenotypes in the German Severe Asthma Registry

## Patients

- 463 adult patients with severe asthma in the German Severe Asthma Registry ([www.german-asthma-net.de](http://www.german-asthma-net.de)) (406 adult, mean±SEM 49.6±0.6 yrs., 57 pediatric, 13.0±0.5 yrs.; FEV1 63.4±1.5%, FEV1/FVC 64.3±1.4%, 87% partly or uncontrolled)

Allergy symptoms, skin prick test, total and specific serum IgE, blood eosinophils



- Prevalence of allergic and eosinophilic phenotypes in asthma patients

## Results

### Allergic asthma (AA)

- 211 adult patients (52.2%)
- Characterized by allergy symptoms and a positive skin prick test against common allergens (most frequently house dust mites and grass pollen)
- 123 AA patients are treated with omalizumab (median dose 450 mg/month for a median of 17 months)

Parameter	Mean±SD
Age (years)	46.5±0.8
FEV1 (% pred.)	62.2±2.3
FEV1/FVC (%)	64.7±2.0
Eosinophils/μl blood	130±8
Exhaled NO (ppb)	41±4
Total serum IgE (IU/ml) (median, range)	280 (4-13292)

### Eosinophilic asthma (EA)

- 40 adult patients (10.0%)
- Characterized by >300 eosinophils/μl blood with no clinical or serological signs of allergic disease

Parameter	Mean±SD
Age (years)	56.9±1.5
FEV1 (% pred.)	56.7±5.2
FEV1/FVC (%)	65.6±3.4
Eosinophils/μl blood	1010±202
Exhaled NO (ppb)	62±10
Total serum IgE (IU/ml) (median, range)	151 (11-2345)

### Allergic and eosinophilic asthma

- 59 adult patients (14.7%) fulfilled the criteria of allergic and eosinophilic asthma
- 35 of these 59 patients (59%) are physician-classified as non-allergic (intrinsic) asthma

Parameter	Mean±SD
Age (years)	50.5±1.7
FEV1 (% pred.)	60.5±3.4
FEV1/FVC (%)	61.0±2.9
Eosinophils/μl blood	790±123

Parameter	Mean±SD
Exhaled NO (ppb)	72±10
Total serum IgE (IU/ml) (median, range)	280 (37-24500)

## Conclusion

- These results confirm the presence of clinically relevant phenotypes among severe asthma patients
- Simple diagnostic criteria (e.g. skin prick test, blood eosinophil count) are sufficient to identify appropriate patients for specific biological therapies