Nasal polyposis in patients in the Severe Asthma Registry of The German Asthma Net

C. Bal, S. Stoshikj, K. Milger, D. Skowasch, M. Gappa, C. Koerner-Rettberg, M. Jandl, O. Schmidt, R. Ehmann, C. Taube, E. Hamelmann , R. Buhl, S. Korn[1], M. Idzko[1].

CB, SS and MI: Department of Pneumology, University Hospital Vienna AKH, Medical University of Vienna, Vienna, Austria, KM: Department of Medicine V, Ludwig-Maximilians-University (LMU) of Munich; Comprehensive Pneumology Center (CPC-M) German Center for Lung Research (DZL), Munich, Germany, DS: Department of Internal Medicine II - Pneumology, University Hospital Bonn, Bonn, Germany, MG: Evangelisches Krankenhaus Düsseldorf, Children's Hospital, Düsseldorf, Germany, CKR: Department of Pediatrics, Research Institute, Marien-Hospital Wesel, Wesel, Germany, MJ: Hamburger Institut für Therapieforschung GmbH, Hamburg, Germany, OS: Pneumologische Gemeinschaftspraxis und Studienzentrum KPPK, Koblenz, Germany, RE: Ambulante Pneumologie mit Allergiezentrum, Stuttgart, Germany, CT: Department of Pulmonary Medicine, University Hospital Essen - Ruhrlandklinik, Essen, Germany, EH: Kinderzentrum Bethel, Evangelisches Klinikum Bethel, University Bielefeld, Bielefeld, Germany, RB: Mainz University Hospital, Pulmonary Department, Mainz, Germany, SK: Thoraxklinik Heidelberg und IKF Pneumologie Mainz, Mainz, Germany.

GAN Poster

German Asthma Net e.V.

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Background and methods

Severe asthma often co-occurs with Chronic Rhinosinusitis with nasal polyps (CRSwNP), characterized by increased type 2 inflammation. The concept of united airway disease arose due to the shared presence of type 2 cytokines, local IgE production, and eosinophil infiltration.

We aimed to characterize patients with severe asthma and comorbid CRSwNP in a real-life setting. We assessed epidemiologic, inflammation, disease control, and lung function parameters in patients from the **German Asthma Net (GAN), an international, multi-center registry that records long-term comprehensive data.**

Cohort

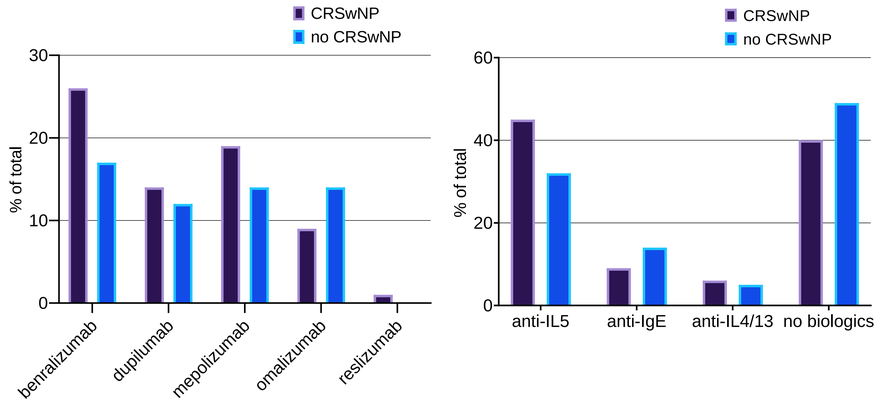
Results: **This cross-sectional study analyzed 1135 patients, 39% of who had CRSwNP, 58% were female, and in the mean 53±16 years, with 59% frequent exacerbations (≥2/year)).**

Conclusion

In patients with severe asthma from the German Asthma Net Registry, the history of nasal polyps marks pronounced type 2 inflammation, suggesting possible benefit from targeted treatments.
There was no measured association with asthma control, exacerbation rates, and systemic corticosteroid treatments in this cross-sectional cohort with ongoing treatments.

Biologics use

CRSwNP and severe asthma are **independent indications for biologics**, with increased use in this cohort. Corticosteroid use was irrespective of CRSwNP:



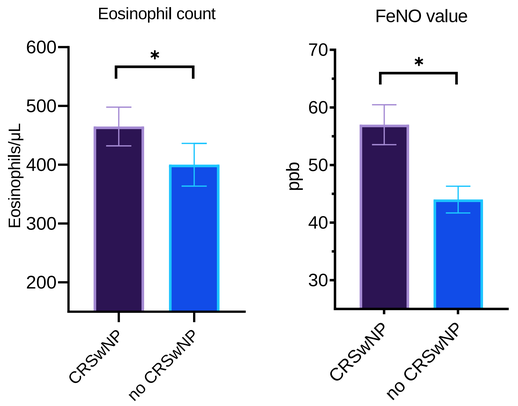
Variables, % of total (n):	**CRSwNP,** n=438	**No CRSwNP,** n=697	***p-value***
Biologic therapy	60% (262)	51% (353)	0.003
Anti-IL5R (benralizumab)	26% (110)	17% (117)	0.001
Anti-IL5 (mepolizumab)	19% (81)	14% (100)	0.06
Anti-IL5 (reslizumab)	1% (5)	0% (4)	0.3
Anti-IL4/13 (dupilumab)	14% (28)	12% (37)	0.5
Anti-IgE (omalizumab)	9% (38)	14% (95)	0.012
Corticosteroid maintenance therapy	34.0%	32.6%	0.6
Any corticosteroid adverse effects	58% (252)	51% (356)	0.03

Comorbidities and age

Patients with and without CRSwNP differ in age and eosinophilic comorbidity prevalence:

Variables, % of total (n):	**CRSwNP,** n=438	**No CRSwNP,** n=697	***p-value***
Current age ≥ 18 years	98% (430)	95% (659)	0.003
Asthma onset ≥ 12 years	87% (381)	70% (488)	<0.0001
Surgical treatment of CRSwNP	76% (336)	n/a	n/a
Chronic sinusitis	80% (350)	30% (211)	<0.0001
NSAID-exacerbated disease	28% (121)	16% (110)	<0.0001
Acetylsalicylic acid deactivation	2% (10)	0% (0)	<0.0001
Eosinophilic granulomatosis with polyangiitis	6% (27)	2% (16)	0.001
Hypereosinophilic syndrome	5% (22)	3% (19)	0.04
Eosinophilic pneumonia	3% (11)	1% (6)	0.03

Type 2 inflammation parameters



Type 2 inflammation markers are significantly higher in CRSwNP patients: they exhibited higher levels of exhaled nitric oxide (FeNO, p<0.001) and blood eosino-phil counts (p=0.03).

CRSwNP was also **more common in adults** than in children (p=0.003) and **inversely** associated with **allergic diatheses** (p<0.05).

Variables, mean (SD) / % of total (n):	**CRSwNP,** n=438	**No CRSwNP,** n=697	***p-value***
FeNO, ppb	57 ± 52	44 ± 44	<0.0001
Blood eosinophils/µL	465 ± 556	400 ± 797	0.03
Predominantly allergic asthma form	42% (184)	49% (339)	0.008
Seasonal sensitisation (Prick test)	50% (219)	58% (403)	0.009
Seasonal sensitisation (Specific IgE)	16% (70)	24% (166)	0.002
Perennial sensitisation (Prick Test)	55% (239)	61% (427)	0.02
Perennial sensitisation (Specific IgE)	18% (78)	28% (192)	0.000

Asthma control and lung function

Mean disease control and lung function parameters were clinically similar:

Variables, mean (SD):	**CRSwNP,** n=438	**No CRSwNP,** n=697	***p-value***
Asthma onset, years	36 ±17	32 ± 21	0.004
ACQ-5 score (MCID: 0.5 points)	2.6 ± 1.6	2.8 ± 1.4	0.06
ACT score (MCID: 3 points)	16 ± 6	14 ± 6	<0.001
mAQLQ score (MCID: 0.5 points)	4.1 ± 1.4	3.9 ± 1.3	0.04
FEV1 in % of predicted (MCID: 5-15%)	71 ± 21	66 ± 23	0.001
Worst FEV1 (% pred.), historical	61 ± 19	58 ± 21	0.007
FVC, % of predicted (MCID: 5-15%)	83 ± 20	79 ± 20	0.001
FEV1/FVC, in %	70 ± 15	67 ± 18	0.005