Prevalence of Comorbidities in Adults with Severe Asthma: Results from the International Severe Asthma Registry (ISAR)

Poster P174

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Introduction

- Comorbidities complicate asthma management and have implications for treatment.
- Comorbidities may worsen asthma outcomes.
- Published data are scarce in severe asthma patients.
- Three main categories:
  1. Potentially T2-related comorbidities
  2. Potentially OCS-related comorbidities
  3. Comorbidities mimicking/exacerbating asthma

Aim

- To understand the pattern of comorbidities in adults with severe asthma and investigate their association with asthma-related outcomes.

Methods

- **Study population:** Adult patients from 22 countries enrolled in ISAR.

- **30 individual comorbidities**
- **Assessment of comorbidity history:**
  - Case report forms (most contributing countries): specific categorical fields + free-text fields
  - Electronic medical record data mining (USA)
  - Information collected from all available visits (period prevalence)
- **Table 1. Study sample characteristics (N=11,821).**

Characteristics	N	(%)
Sex: Female	7,352	(62.2)
Age:	Median = 56 (IQR: 45, 66)	
Selected therapeutics:		
Long-term OCS	2,792	(23.8)
Biologics	5,428	(45.9)
Age at asthma onset:	Median = 30 (IQR: 15, 45)	
<12 years old	1,194	(20.7)
≥12 years old	4,584	(79.3)
Duration between enrolment and latest visits (years):	Median = 0.71 (IQR: 0, 2.1)	

Results

Table 2. Prevalence of individual comorbid conditions in patients enrolled in the ISAR (24/01/2022 database).

Comorbidities	Prevalence	Sample size*	N countries contributing
Potentially T2-related			
Allergic rhinitis	49%	11,281	22
Chronic rhinosinusitis[1]	38%	11,177	21
Nasal polyposis	21%	11,613	22
Eczema/atopic dermatitis	10%	11,600	22
Urticaria	3.5%	6,849	4
Food allergy	3.3%	6,977	5
Aspirin sensitivity	1.6%	7,498	7
Eosinophilic esophagitis	0.52%	6,149	3
Potentially OCS-related			
Obesity	42%	11,583	22
Hypertension	23%	9,252	12
Sleep apnea	22%	10,094	21
Dyslipidemia	16%	6,849	4
Anxiety/depression[2]	14%	11,019	21
Osteoporosis	13%	10,742	21
Diabetes	12%	11,422	22
Coronary heart disease	8.9%	11,039	22
Pneumonia	8.5%	10,300	20
Other significant infections	8.1%	6,918	20
Peptic ulcer	2.6%	10,323	20
Pulmonary embolism/VTE	2.5%	9,972	20
Cataract	2.4%	10,923	21
Renal failure	1.5%	11,032	21
Adrenal insufficiency	1.3%	6,149	3
Glaucoma	1.3%	10,888	21
Cerebrovascular accident	0.63%	9,968	20
Mimicking/exacerbating asthma			
Gastro-esophageal reflux disease[3]	44%	7,400	7
Chronic obstructive pulmonary disease	14%	7,508	7
Bronchiectasis	11%	7,509	7
VCD/laryngeal spasms	11%	7,199	5
Dysfunctional breathing	3.2%	7,389	6

*Variations in sample size are due to missing values for individual patients and/or at the country level.
1. With or without nasal polyposis; with or without allergic rhinitis.
2. Can also mimic/exacerbate asthma.
3. Can also be OCS-related.

Figure 1. Co-occurrence of comorbidities across three categories in patients with complete data (N=7,561 patients; 7 countries).

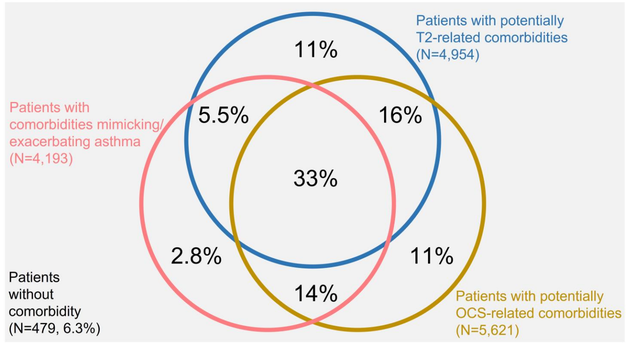


Figure 2. For those with data on at least 3 comorbidities of any type, number of comorbidities reported in ISAR patients overall and by categories.

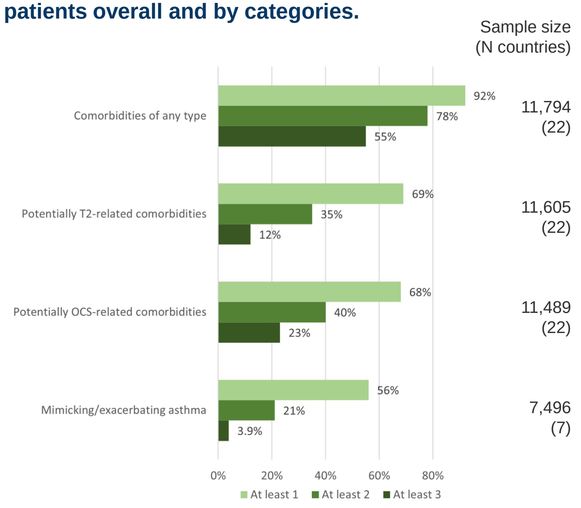
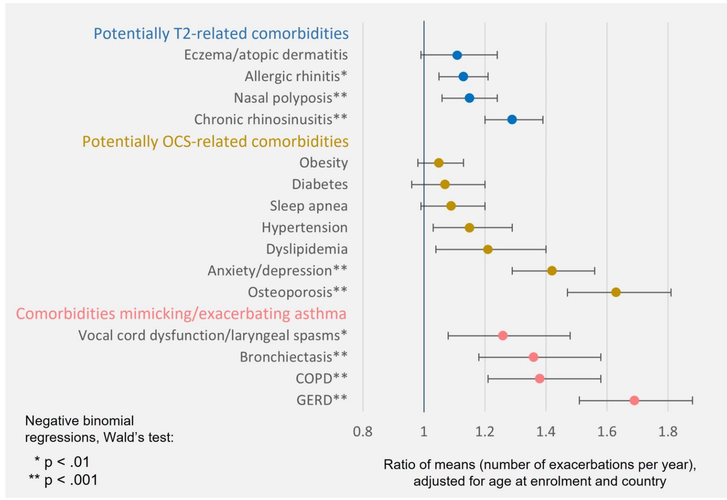


Figure 3. Association between comorbidities and exacerbation rates at enrolment.



Note: Pre-biologic exacerbation rates for patients undergoing biologic therapy.

Conclusions

- **High prevalence of comorbidities (T2- and non T2-related) in real-world severe asthma patients, underscoring the importance of systematic evaluation for comorbidities and multidisciplinary approach.**
- **Co-occurrence of multiple comorbidities within patients:**
  - **55% of patients with at least 3 comorbidities**
  - **33% of patients with comorbidities spanning the 3 categories**
- **Comorbidities are associated with higher exacerbation rates.**
- **Future work: investigate the impact of T2-related comorbidities on response to biologics.**

Abbreviations

COPD: Chronic obstructive pulmonary disease; GERD: Gastro-esophageal reflux disease; IQR: Interquartile range; ISAR: International Severe Asthma Registry; OCS: Oral corticosteroids; T2: Type 2 inflammation.

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