SEVERE ASTHMA – RESULTS FROM A POPULATION BASED STUDY

Lina Rönnebjerg, RN1; Malin Axelsson, RN, PhD, Associate professor2; Adina Pascu, MD1; Helena Backman, PhD2; Hannu Kankaanranta, MD, PhD, Professor2; Bo Lundbäck, MD, PhD, Professor2,3 and Linda Ekerljung, PhD1.
1. Kretting Research Centre, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, University of Gothenburg, Gothenburg, Sweden.
2. Department of Care Science, Faculty of Health and Society, Malmö University, Malmö, Sweden.
3. The OLIN Studies, R&D, Region of Norrbotten, Luleå, Sweden.
4. Dept. of Public Health and Clinical Medicine, Umeå University.
5. Department of Respiratory Medicine, Saimaa Central Hospital, Seinäjoki, Finland, and Faculty of Medicine and Health Technology, University of Tampere, Tampere, Finland.

Background
Although most asthmatics can be controlled with inhaled corticosteroids (ICS) subjects with severe asthma still require specialized care and have lower HRQL. Research of this group is mostly based on samples from specialist clinics which does not reflect asthma on the population level.

Purpose
To determine the prevalence and clinical features of severe asthma in a population-based study.

Methods
In the West Sweden Asthma Study (WSAS), a randomly selected sample (N=1172) and a separate asthma sample (N=744) underwent clinical examinations and structured interviews (Figure 1). Severe asthma was defined as daily medication with at least medium dose ICS plus a second controller or oral corticosteroids based on GINA steps 4 and 5. The prevalence was calculated in the random sample and the asthma sample was used to analyze the clinical characteristics. Asthma control was assessed with the GINA Symptom Control Tool. The results were analyzed using t-test and Chi-square tests.

Results
In the random sample (54% women), 1% had severe asthma while 12% had current asthma. Subjects with severe asthma (63% women) were older than other asthma, mean age 52.1 vs. 47.6 (p=0.020). A majority of the subjects with severe asthma used the combination of ICS + LABA (Figure 3). Despite high doses of ICS and more respiratory symptoms, 36% of the subjects with severe asthma did not see a physician or nurse for an annual asthma follow-up (Figure 4-6).

Subjects with severe asthma had poorer lung function and asthma control than subjects with other asthma (Figure 4-5). They also had more neutrophils in blood (p=0.042) and more exacerbations and emergency visits the last 12 months (Figure 4).

No differences were found between subjects with severe asthma and other asthma regarding gender, atopic status, age of asthma onset or eosinophils in blood.

Take home message
- Prevalence of severe asthma: 1% on population level and 10% within the asthma sample.
- Poorer lung function
- More exacerbations and emergency visits
- More symptoms and restrictions in daily life

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Contact: Lina Rönnebjerg E-mail: lina.ronnebjerg@gu.se

References
- Lina Rönnebjerg, RN1; Malin Axelsson, RN, PhD, Associate professor2; Adina Pascu, MD1; Helena Backman, PhD2; Hannu Kankaanranta, MD, PhD, Professor2; Bo Lundbäck, MD, PhD, Professor2,3 and Linda Ekerljung, PhD1.
- 1. Kretting Research Centre, Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, University of Gothenburg, Gothenburg, Sweden.
- 2. Department of Care Science, Faculty of Health and Society, Malmö University, Malmö, Sweden.
- 4. Dept. of Public Health and Clinical Medicine, Umeå University.
- 5. Department of Respiratory Medicine, Saimaa Central Hospital, Seinäjoki, Finland, and Faculty of Medicine and Health Technology, University of Tampere, Tampere, Finland.

Figure 1. Sampling procedure and prevalence for WSAS.

Figure 2. Prevalence of multiple symptoms (the symptoms included: Longstanding cough, Recurrent wheeze, Asthmatic wheeze and Attacks of shortness of breath) and Distribution of daily maintenance treatment.

Figure 3. Prevalence of respiratory symptoms, lung function and clinical features in the asthma sample. Symptoms of asthma included wheeze, shortness of breath, chest tightness and/or cough. MRC: Modified Medical Research Scale, grade 2 defines as "...has to stop for breath when walking at own pace on the level"