DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF PATIENTS WITH SEVERE ASTHMA WORLDWIDE

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Background: The lack of a universally accepted definition for severe asthma hinders the investigation into its exact prevalence and pathology. The International Severe Asthma Registry (ISAR) was created as a global effort to capture information on severe asthma using a standardized method of data capture. We aimed to examine the global prevalence of severe asthma and its corresponding patient characteristics.

Method: This was a descriptive study utilizing patients with severe asthma data recorded in the ISAR from the UK, USA, Italy, Australia and South Korea from December 2014 to December 2017. Patients were included in the ISAR if they were ≥18 years of age and were on GINA (Global Initiatives for Asthma) Step 5 therapy or Step 4 with uncontrolled symptoms. Descriptive statistics for demographic factors and clinical characteristics were tabulated and summarized.

Results: From a total of 2,244 patients with severe asthma, 1,502 (66.9%) patients were classified as GINA Step 5 patients and 742 (33.1%) as GINA Step 4 patients with uncontrolled symptoms. From the total study population, 1,250 (55.7%) were females and 1,120 (49.9%) were of Caucasian origin. Most of the patients were between the ages 55 and 79 (1107 (49.3%)) and were non-smokers (1,468 (66.2%)). A significant proportion (602 (49.9%)) of the patients had poorly controlled asthma. The asthma age of onset for Step 4 patients fell predominantly within the ">40" age category (291 (41.9%)), whereas the majority of Step 5 patients' asthma age of onset fell within the "12-40" age category (268, (46.4%)). The most prevalent comorbidity was allergic rhinitis for Step 4 (317 (52.7%)) and Step 5 patients (329 (27.3%)). Blood eosinophil count was greater than 0.3 10^9/L for 319 (48.9%) Step 4 and 911 (63.8%) Step 5 patients. Intermediate (25-50 parts per billion) or high (>50 parts per billion) Fractional Exhaled Nitric Oxide (FeNO) results were recorded for 1,107 (78.6%) patients while 1,307 (69.3%) patients had serum IgE levels within 150-400 IU/ml or above 400 IU/ml, indicative of pulmonary inflammation. At least one exacerbation was reported for 962 (78.4%) patients and 472 (49.1%) of these patients had a minimum of four or more exacerbations.

Conclusion: The demographic and clinical characteristics of patients with severe asthma from five geographically diverse countries support previously reported characteristics of severe asthma patients. To decipher informative trends in asthma phenotypes and clinical management, country-specific distributions should be compared next.

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Erin Harvey, David Jackson, Eileen Wang, Enrico Heffler, G. Walter Canonica, John Busby, Sirena Concetta and You Sook Cho declare no relevant conflicts of interest concerning this paper.

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