Observational Study Report

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PRevalence of the Eosinophilic Phenotype Among SeveRE （PREPARE） Asthma Patients in the AstraZeneca International Region
A Multinational, Cross-Sectional, Multicentre Study

Sponsor: AstraZeneca

Author:

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LIST OF ABBREVIATIONS AND DEFINITION OF TERMS

Abbreviation or special term	Explanation
AZ	AstraZeneca
ARG	Argentina
CHI	Chile
COL	Colombia
CRP	Costa Rica
MEX	Mexico
SAU	Saudi Arabia
BMI	Body mass index
CRO	Clinical research organization
eCRF	Electronic Case Report Form
FEV1	Forced expiratory volume in 1 second
FVC	Forced vital capacity
GINA	Global Initiative for Asthma
ICS	Inhaled corticosteroids
ICF	Informed consent form
IgE	Immunoglobulin E
IRB	International review board
LABA	Long acting beta agonist
LAMA	Long acting antimuscarinic
MEOR	Monitoring, evaluation and operations research
NIS	Non-interventional study
OCS	Oral corticosteroids
PEFR	Peak expiratory flow rate
QoL	Quality of life
SABA	Short acting beta agonist

RESPONSIBLE PARTIES

Name	Professional Title	Role in Study	Affiliation	Email Address

STUDY REPORT SUMMARY (ABSTRACT)

PRevalence of the Eosinophilic Phenotype Among SeveRE (PREPARE) Asthma Patients in the AstraZeneca International Region
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Background/Rationale:

Asthma is a syndrome characterized by airway inflammation, reversible airway obstruction, and airway hyper-responsiveness. Patients present clinically with recurrent wheezing, shortness of breath, cough, and chest tightness. Asthma is a leading cause of morbidity with a global prevalence of approximately 300 million. It is estimated that the number of people with asthma may increase from 400 to 450 million people worldwide by 2025.

Severe asthma is not considered to be a single disease, but can be divided into several phenotypes, owing to the variety of inflammatory, clinical and functional characteristics that it can present with. One of most studied phenotypes is severe eosinophilic asthma. Patients with severe asthma that is accompanied by a high concentration of eosinophils require greater healthcare resource use, have overall greater disease management costs and experience a much more impaired Quality of Life (QoL) than those who do not present with raised eosinophilia.

While the number of targeted treatments for asthma management has been growing in recent years, the heterogeneity of clinical presentations, treatment responses and inflammatory processes involved represents an added challenge for health care professionals. Thus, severe asthma management is a complex endeavour that requires a thorough and up-to-date understanding of the pathophysiologic characteristics of the patient population to promote more effective therapeutic decision-making.

The purpose of this cross-sectional, multicentre study is to determine the prevalence of an eosinophilic phenotype of blood eosinophil count $\geq$ 300 cells/mm^3 among severe asthma patients who attend to sites specialized in the management of severe asthma in several countries in the AstraZeneca's International Region.

Objectives and Hypotheses:

The overall objectives of this study were to estimate the prevalence of the eosinophilic phenotype and atopic phenotype among severe asthma patients in several countries in the AstraZeneca's International Region. Asthma control among this patient population was also studied. This study is descriptive in nature and does not attempt to test any specific *a priori* hypothesis.

Methods:

This was a multinational, multicentre, observational, descriptive study, with a cross-sectional design and retrospective data collection, to assess the prevalence of eosinophilic and atopic phenotype, as well as the status of asthma control among severe asthma patients, for a better understanding of this disease.

This study was conducted in centres specialized in the management of severe asthma in six countries in the International Region. The study population included patients 12 years and older with severe asthma, as per the definition of the ERS/ATS Guidelines on Definition, Evaluation and Treatment of Severe Asthma. Patients attended their routine clinical appointment at specialized settings dedicated to the management of asthma. The data from each patient came from four different resources: (1) After signing his/her written informed consent, the patients were asked to provide their current information regarding variables aligned with the study objectives. (2) Additionally, their medical records were collected for retrospective variables. (3) Information was also collected on the patients' total serum IgE levels and complete blood count values, as assessed from a blood sample obtained at the study visit. This data was collected in compliance with the patients' routine assessment protocols at the asthma treatment centres. (4) Finally, patients were asked to respond to the Global Initiative for Asthma (GINA) assessment of asthma control during the study visit.

Results:

In total, 562 patients who met the study participation criteria from each of the six countries in AstraZeneca's International region were included in the final cross-sectional study. The mean

age of the subjects was 50 years old. Subjects had been diagnosed with asthma for an average (mean) of 20 years. 44% of the total patients in the study presented an eosinophilic phenotype of blood eosinophil count ≥ 300 cells/mm^3, while 56% presented with the atopic phenotype of total serum IgE > 100 IU/mL (phenotype 1), and 45% had the atopic phenotype of total serum IgE > 150 IU/mL (phenotype 2). Patients with both eosinophilic and atopic phenotype 1 and with both eosinophilic and atopic phenotype 2 were 29% and 25% respectively. At the level of asthma symptom control, only 19% of these 562 patients were well-controlled, while 53% of them were classified as uncontrolled.

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MILESTONES

Milestone	Planned date
October 2018	Development of Study Concept Sheet
November 2018	Final Protocol
January 2019	Study Start Up: contracts in place, regulatory submissions, initiation visits
May 2019	FSI
December 2019	LSI
January 2020	Database Lock & Data Extraction
February 2020	Development of Analytic Datasets
April 2020	Statistical Analyses
June 2020	Final Report
July 2020	First Main Manuscript