

Healthcare Resource Utilization of Severe Eosinophilic Asthma Patients Treated with Benralizumab in Real-Life: Results from the Portuguese BETREAT Study

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Poster presented at ISPOR Europe 2023, Copenhagen, Denmark

Key Messages:

- Severe asthma imposes a high burden for the healthcare systems;
- Asthma exacerbations lead to therapy increase, and/or emergency department or urgency care visits, and/or hospitalizations;
- Real-world patients treated with benralizumab experienced a decrease in mOCS use, less exacerbations and higher symptoms control during a 24-months follow-up period;
- The better clinical control of this cohort of SEA patients translated into a reduction in hospitalisations and ER visits.

BACKGROUND

- Severe asthma requires high daily doses of inhaled corticosteroids (ICS) plus a second controller or oral corticosteroids to maintain adequate control or is still uncontrolled despite this treatment.¹ Most (>90%) patients with severe asthma have an eosinophilic phenotype² and Guidelines recommend the use of biologics for the treatment of severe asthma.^{3,4}
- Severe asthma seriously contributes to the overall burden of asthma for patients in the healthcare systems.^{5,6} In Portugal, direct costs related to asthma accounted for over 2% of the total healthcare expenditure in 2010.⁷
- Benralizumab is indicated as add-on maintenance treatment in adult patients with severe eosinophilic asthma (SEA) inadequately controlled despite high-dosage inhaled corticosteroids plus long-acting β -agonists.

OBJECTIVES

- This analysis of the BETREAT study aims to evaluate the healthcare resource utilization (HRU) among SEA patients in Portugal before and after starting treatment with benralizumab.

METHODS

- Observational, retrospective, multicentre study. Index date was defined as the first benralizumab dose administration date, between July 2019 and October 2020.
- The study was approved by each Hospital Ethics Committee and Informed Consent was collected for all patients before study entry.

Study population

- ≥ 18 years
- SEA diagnosis
- ≥ 1 benralizumab injection and ≥ 3 months follow-up

Study design



16 sites

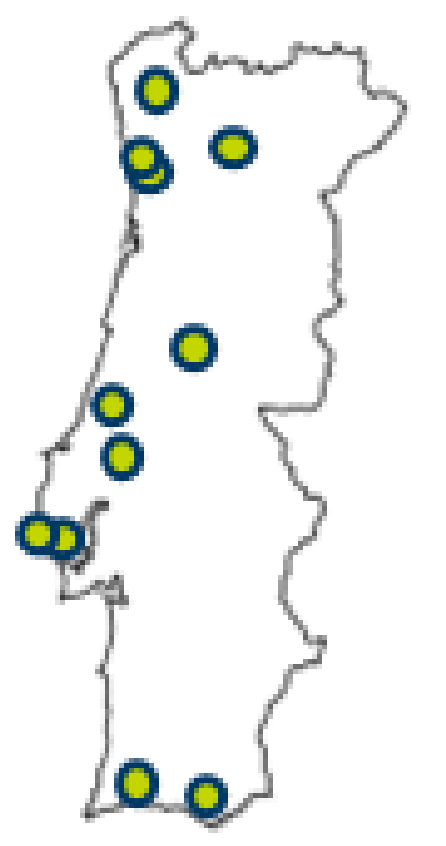


Figure 1. Portuguese map – BETREAT sites geographic location.

- Asthma exacerbation** was defined as a worsening of asthma that led to one of the following: (1) use of systemic corticosteroids for 3 days or more or a temporary increase in a stable, background dosage of oral corticosteroids; (2) an emergency department or urgent care visit (<24 h) due to asthma that required systemic corticosteroids; or (3) an inpatient admission to hospital (≥ 24 h) due to asthma.

RESULTS

Patients characteristics (baseline)

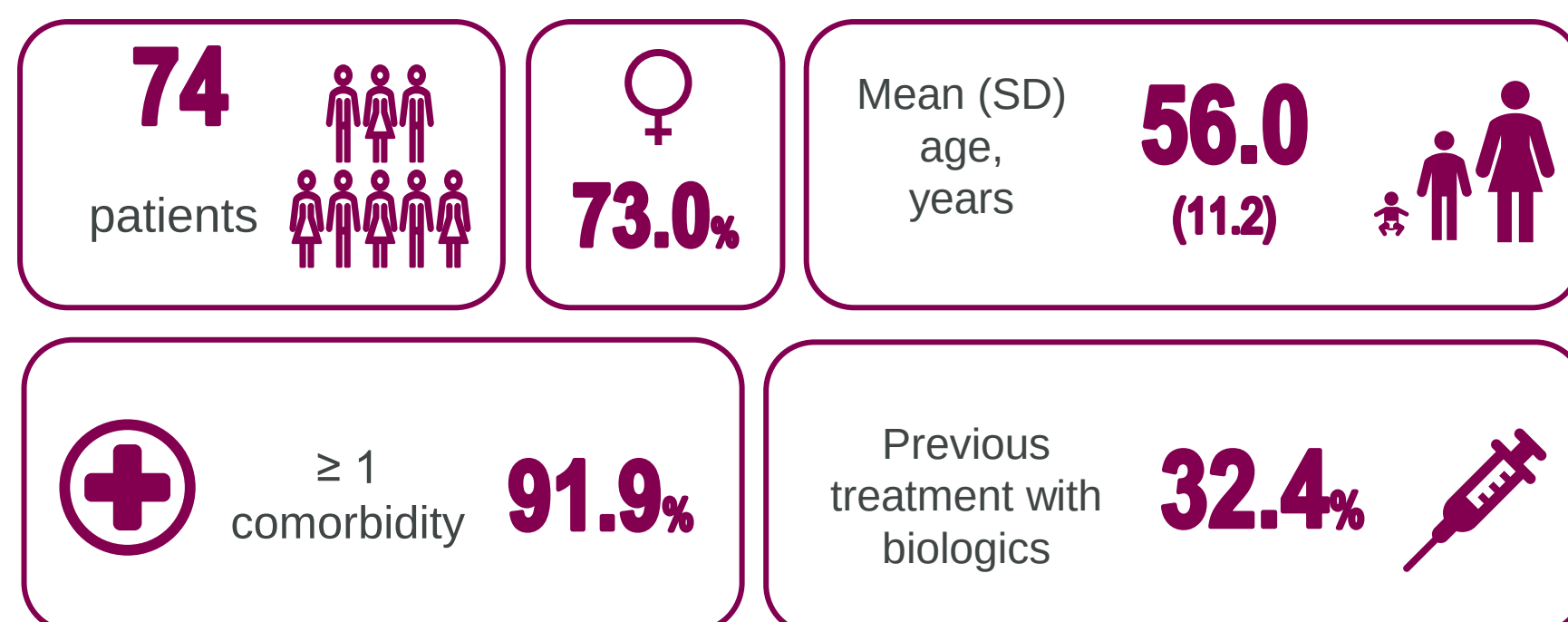


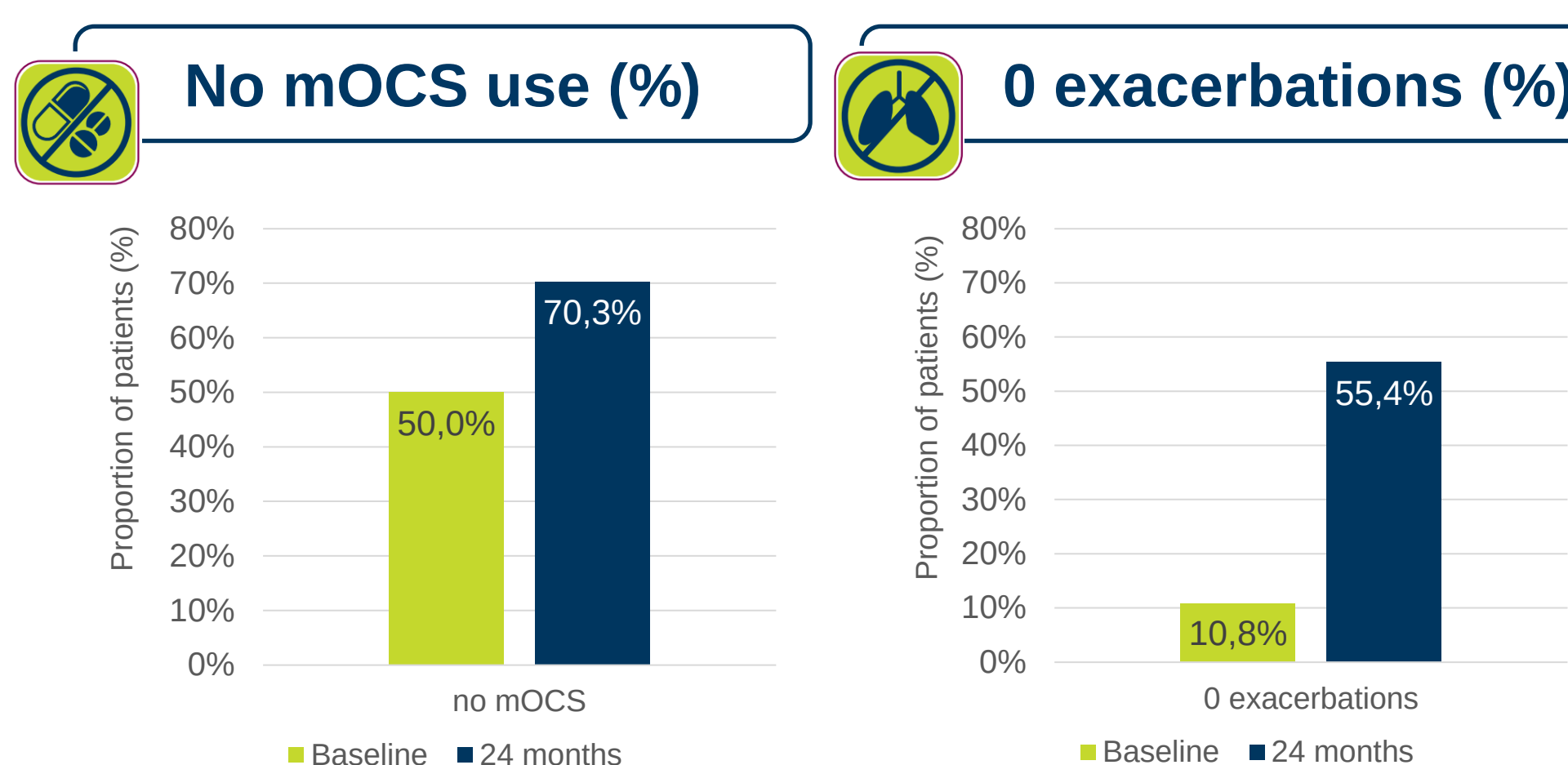
Table 1 - Demographic and baseline characteristics

Age, mean, years (SD)	56.0 (11.2)
Female, n (%)	54 (73.0)
BMI, kg/m ² , mean (SD)	30.0 (6.1)
Non-smokers, n (%)	51 (68.9)
BEC, median, cells/ μ L (IQR)*	300 (105, 615)
mOCS use, n (%)	37 (50.0)
mOCS dose, mean mg/day (SD)*	19.1 (13.1)
Annual exacerbation rate	3.12
ACT score, mean (SD)*	12.9 (4.6)
CARAT score, mean (SD)*	15.1 (4.7)

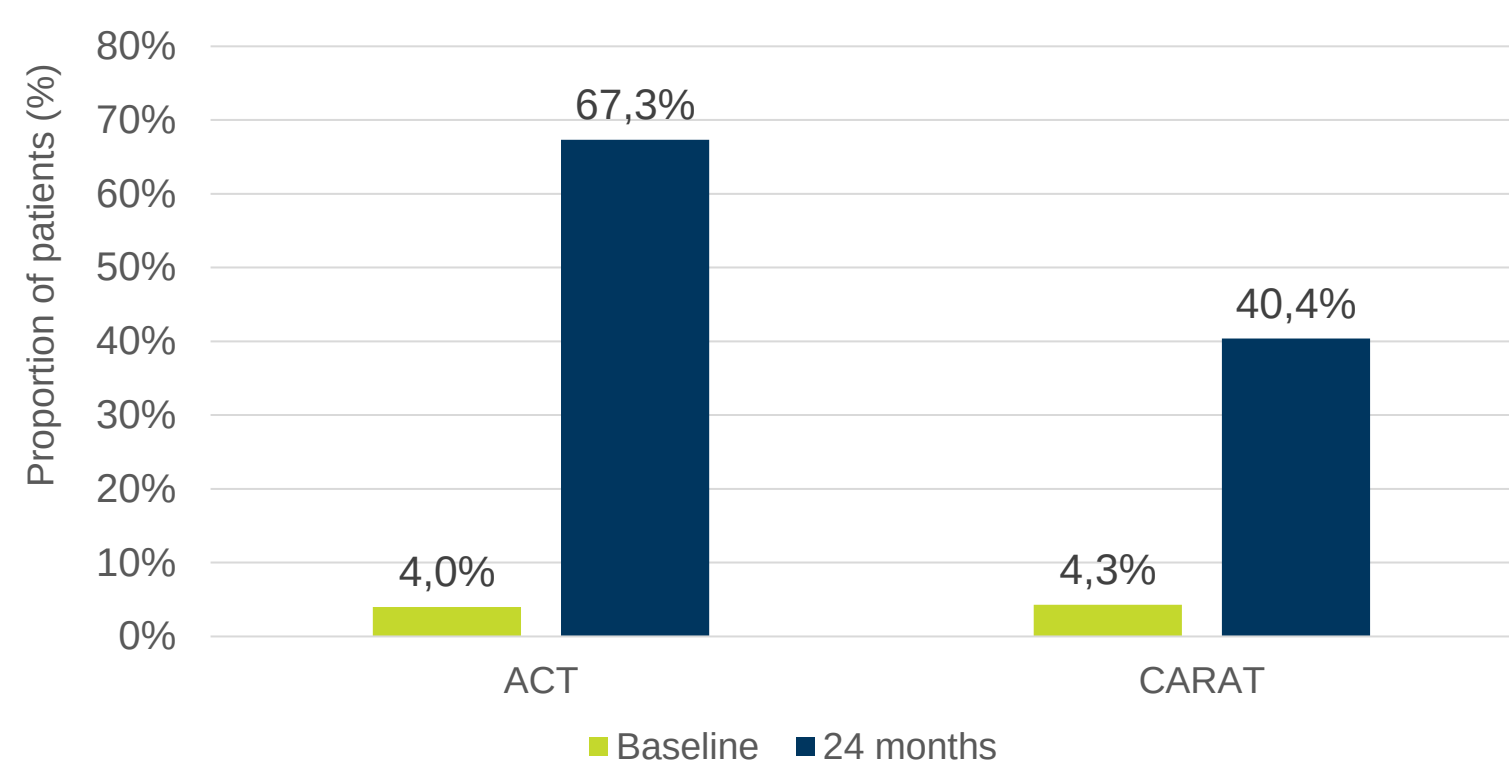
*at closest date from index
SD, standard deviation; BMI, body mass index; EOS, eosinophils; IQR, interquartile range; OCS, oral corticosteroids; ACT, Asthma Control Test; CARAT, Control of Allergic Rhinitis and Asthma.

Clinical evolution

Figure 2. Proportion of patients with no mOCS use, no exacerbations, and controlled symptoms, at baseline and 24 months follow-up.



Controlled symptoms* (%)

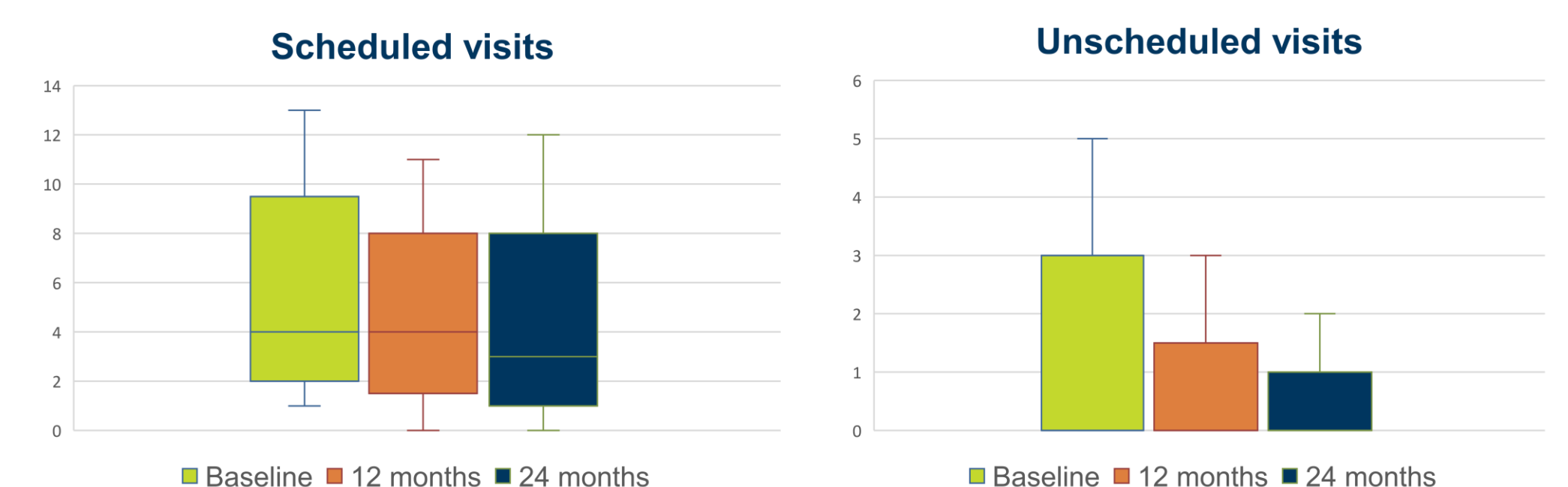


*ACT ≥ 20 ; CARAT ≥ 24

- Mean adherence of study participants was 0.87 ± 0.18 , indicating that, on average, patients received approximately **87% of their expected injections**.
- Only one patient (biologic-naïve) discontinued benralizumab.

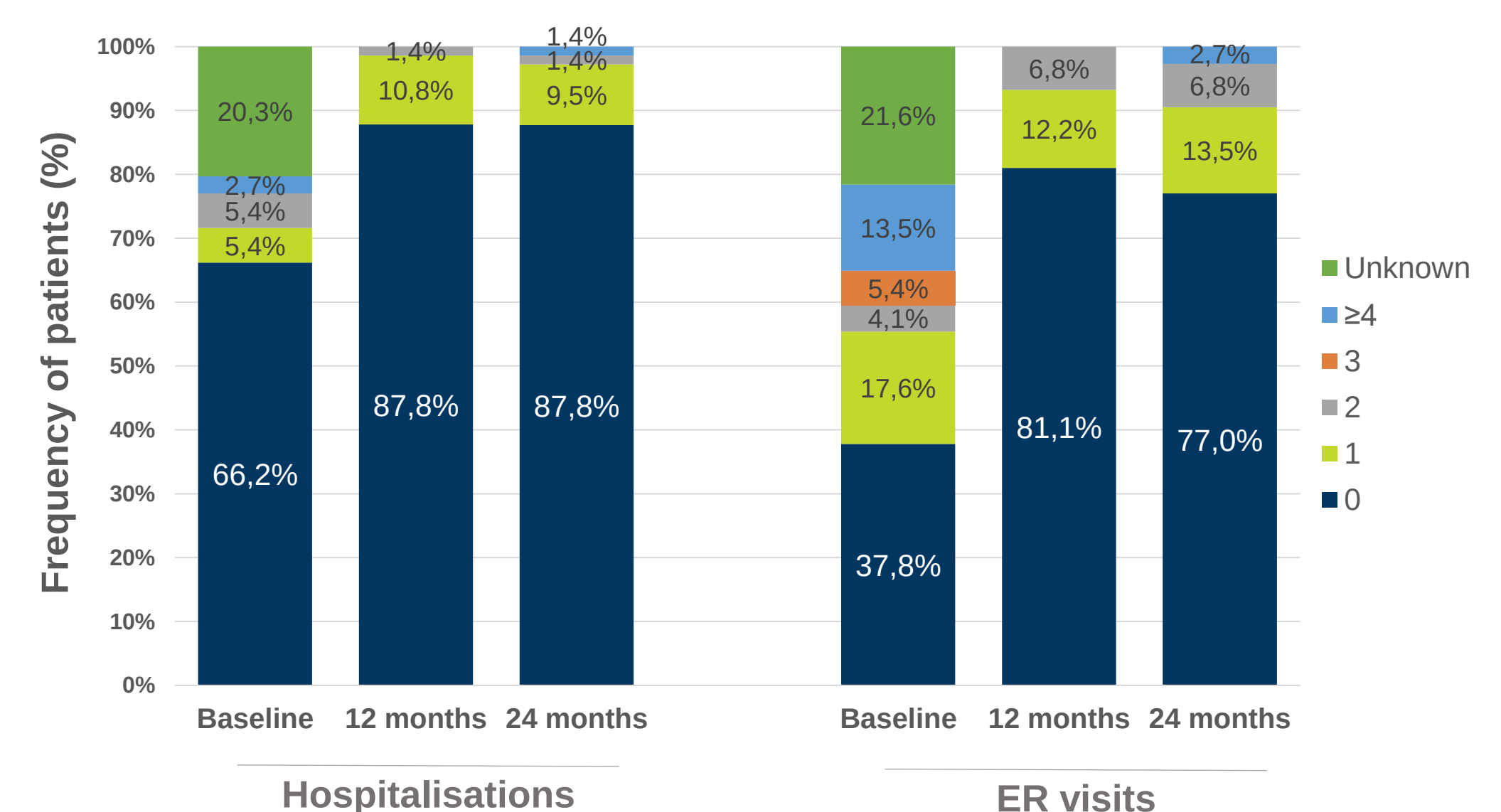
Healthcare Resource Use – Outpatient visits

Figure 3. Median number of scheduled and unscheduled visits for asthma at baseline, 12 and 24 months follow-up.



Healthcare Resource Use – hospitalisations and ER visits

Figure 4. Proportion of patients with 0, 1, 2, 3, and ≥ 4 hospitalisations and ER visits, from index date until 12 and 24 months follow-up.



- At baseline, patients spent a mean of 15.6 ± 14.8 days in the hospital, which decreased to 13.9 ± 15.8 and increased to 17.0 ± 17.3 days at the 12-month and 24-month follow-ups, respectively.
- ICU admissions were minimal, with a mean of 0.04 ± 0.27 at baseline and a maximum of 2 admissions.

CONCLUSIONS

- Benralizumab treatment led to a significant **reduction in hospitalisations and ER visits** along with a decrease in the number of exacerbations.
- These results suggest that better clinical control of asthma is associated with HRU reduction, which is a feasible target to decrease the burden of asthma across healthcare system.

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Pardo M, Marques A, Martinho H, Bernardo F are AstraZeneca Portugal employees.

BETREAT study is part of
XALOC program,
supported by:

AstraZeneca