Patterns of ICS Reduction in Patients with Severe Asthma on Mepolizumab

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Aims

- Mepolizumab has been shown to improve severe eosinophilic asthma control in clinical trials.[1-3] Further, real-world studies examining mepolizumab have established efficacy in routine clinical practice.[4,5] While there is anecdotal evidence that patients treated with mepolizumab reduce their inhaled corticosteroid (ICS) dose, there is currently no available data to support this observation.
- The objective of this study was to describe ICS utilization after initiating treatment of mepolizumab.

Methods

- This was a retrospective analysis of US patients from November 1, 2015 – March 31, 2018 using the MarketScan® Commercial and Medicare Supplemental Database.

Key Inclusion Criteria	Key Exclusion Criteria
• ≥ 1 mepolizumab administration between 11/01/2015-03/31/2018 (index) • ≥ 12 years of age during index • Continuous enrolment with medical and pharmacy coverage during 12-month baseline and follow-up • ≥ 1 asthma diagnosis code during baseline • ≥ 2 mepolizumab administrations 6-months post-index • Evidence of high-dose ICS use* in the last 90-days of baseline	• Evidence of mepolizumab use during the baseline • Evidence of omalizumab, reslizumab, benralizumab, or dupilumab during the baseline or follow-up

ICS Dose Defined by Quarter using GINA Guidelines[6]

Patients were classified into three subgroups each quarter of the 12-month follow-up period; 1) High dose ICS, 2) minimal/low/medium ICS dose, 3) none/no ICS dose.

Outcomes of Interest – Quarterly Change in ICS

Post- Hoc Analysis – 24 Months Follow-up

In a subset of patients, asthma exacerbation rates, OCS and SABA use were stratified by quarterly change in ICS use over a 24-month period following initiation of mepolizumab.

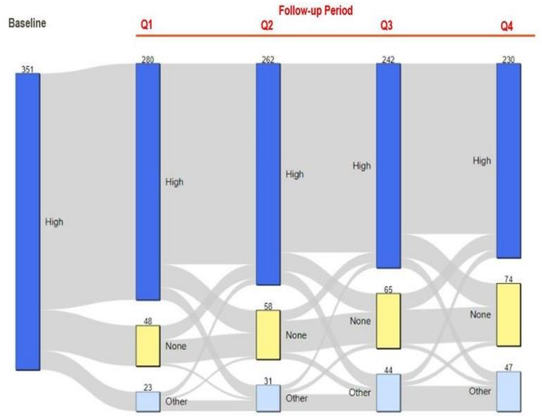
Results

Table 1. Baseline Demographics and Clinical Characteristics

Patients Meeting Criteria	Age	Female	Insurance	Comorbidities	
N=351	52.1 (12.2) Mean (SD)	62%	91% Commercial 9% Medicare	Allergic rhinitis Sinusitis Hypertension GERD COPD	71.5% 57.0% 39.3% 34.8% 31.3%

- Patients received on average 10.7 injections of mepolizumab over the 12-month follow-up period.

Figure 1. Movement of Patients from High Dose ICS to Lower Doses or No ICS Following Initiation of Mepolizumab by Quarter of Follow-up



- Although the number of patients on high dose ICS decreased and those on other dose or no ICS use increased during the follow-up period, 179 patients (51%) remained on high ICS for the duration of follow-up. Only 14 patients (4%) who discontinued ICS during the follow-up period remained off ICS for the 12-month duration of follow-up.

Figure 2. Percent of Patients Remaining on High Dose ICS Following Initiation of Mepolizumab by Quarter of Follow-up

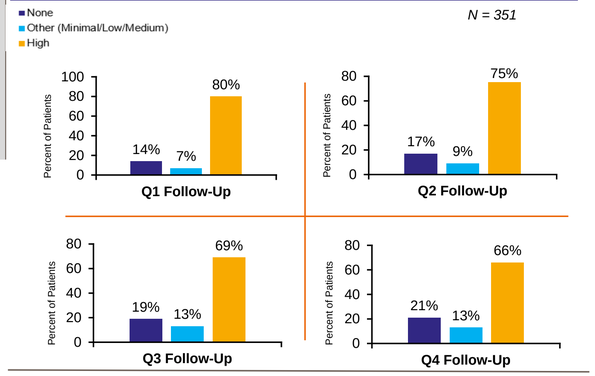
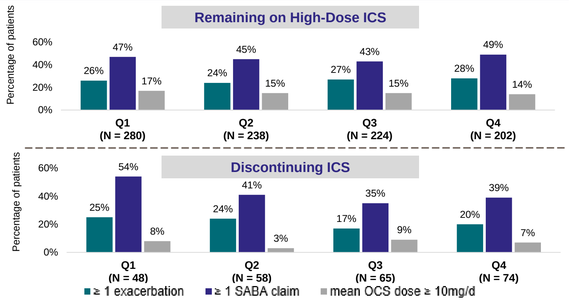


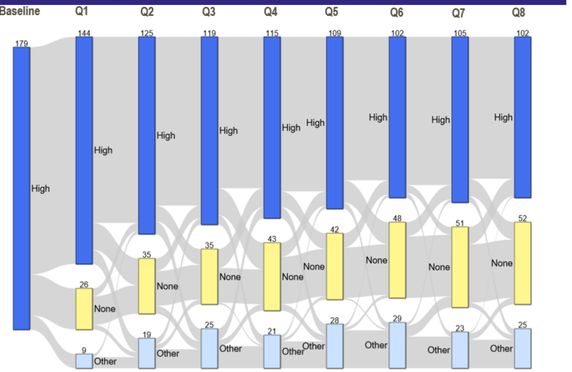
Figure 3. Asthma Exacerbation, SABA and OCS Use in Patients Remaining on High-Dose ICS vs. Patients Discontinuing ICS



- Rate of exacerbation, SABA use and high dose OCS did not appear to be strongly correlated with either remaining on or discontinuing ICS dose.

Post-Hoc Analysis - 179 patients with 24-month follow-up

Figure 4. Movement of Patients from High Dose ICS to Lower Doses or No ICS Following Initiation of Mepolizumab by Quarter over 24 Months



Conclusions

- Half of patients with severe asthma on mepolizumab remained on high-dose ICS for 12 months following treatment initiation; the other half discontinued ICS for some time period. In patients with 24 months of follow-up, decreases in ICS dose also persisted in the 2nd year following mepolizumab initiation.
- These data may have relevant clinical implications for HCPs and patients with severe eosinophil asthma, illustrating the need for close patient monitoring and an early, robust discussion on asthma therapeutic action plans, particularly in the context of biologic initiation.

References

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