

# Prescription Patterns Among Newly Diagnosed Patients with Eosinophilic Granulomatosis with Polyangiitis (EGPA, formerly Churg-Strauss Syndrome): Evidence from a Managed Care Database in the United States

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## Background

- Eosinophilic granulomatosis with polyangiitis (EGPA), previously referred to as Churg-Strauss Syndrome, is a rare complex multisystem disorder, characterized by vascular inflammation and multisystem organ damage. EGPA usually manifests as a combination of chronic rhinosinusitis, asthma, and prominent peripheral blood eosinophilia.
- Management of EGPA is aimed at reduction of active inflammation, suppression of the immune response, and control of disease-specific and/or treatment-related complications.

This study explores prescription patterns among newly diagnosed patients with EGPA from the managed care perspective in the United States (US).

## Methods

- A retrospective cohort study was conducted using a large, administrative claims database (Optum Research Database) containing medical/pharmacy claims and enrollment data of a commercially insured population (commercial or Medicare Advantage) in the US.
- Previous study examined the clinical and economic burden associated with EGPA relative to asthma using a retrospective observational case-control study, where the primary objective was to compare 12-month follow-up all-cause healthcare resource utilization (HRU) and costs among an EGPA cohort and a matched asthma cohort
- Data in this poster focuses on prescription patterns among newly diagnosed patients with EGPA from the managed care perspective.

## Key Inclusion Criteria

- ≥ 1 EGPA algorithm or having ≥ 1 EGPA diagnosis code in the identification period (January 1, 2008 to May 31, 2016)
- ≥ 18 years of age at index
- ≥ 6 months pre-index continuous enrollment
- ≥ 12 months post-index continuous enrollment

## Key Exclusion Criteria

Patients with missing geographic region, gender or insurance type were excluded from this study

## EGPA Cohort Identification

- Published algorithms based in part on ICD-9 diagnosis codes were used to identify EGPA patients between January 1, 2008 and September 30, 2015.<sup>1,2</sup>
- ICD-10 diagnosis code M30.1 (polyarteritis with lung involvement [Churg-Strauss]) was used to identify EGPA patients between October 1, 2015 and May 31, 2016.

## References

- Srih et al. *Pharmacoepidemiol Drug Saf.* 2016;25:1365-74
- Harrold et al. *Pharmacoepidemiol Drug Saf.* 2004;13:661-7

## Disclosures

- This study was funded by GlaxoSmithKline (HO-17-17742)
- The presenting author, CFB, declares the following real or perceived conflicts of interest during the last 3 years in relation to this presentation: employee of GlaxoSmithKline, and as such, receives salary, benefits and stock
- The coauthor, CBP, is an employee of Optum which received research grants / funding from GlaxoSmithKline to conduct this analysis

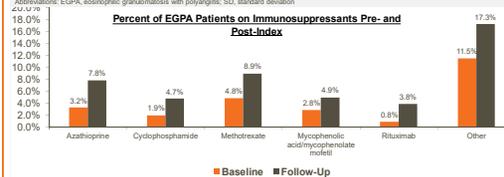
- We would like to thank Amy Gulsinger, BS, GSK, for her editorial support in developing this poster.

## Results

Table 1. Pre-Index Patient Demographics and Clinical Characteristics<sup>1</sup>

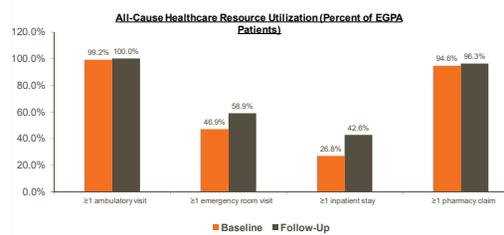
Baseline Characteristics	EGPA (N = 2,226)
Age, mean (SD)	59.7 (14.2)
Female, (%)	70.0
Region, n (%)	
Northeast	389 (17.5)
Midwest	543 (24.4)
South	965 (43.4)
West	329 (14.8)
Commercial insurance, n (%)	1,307 (58.7)
Quan-Charlson Comorbidity Index (CCI), mean (SD)	1.8 (1.7)
CCI score by group, n (%)	
0	437 (19.6)
1-2	1,167 (52.4)
3-4	447 (20.1)
5+	175 (7.9)
Biologics for autoimmune disease, <sup>2</sup> n (%)	83 (3.7)
Comorbidities, <sup>3</sup> n (%)	
Hypertension	1,322 (59.39)
Disorders of lipid metabolism	1,044 (46.90)
Non-traumatic joint disorders	1,129 (50.72)
Connective tissue diseases	1,213 (54.49)
Diseases of the heart	1,172 (52.65)
Respiratory infection	1,076 (48.34)
Lower respiratory diseases	1,260 (56.60)

1. Pre-index period was defined as the 6-months prior to index date (not including index date). 2. Any Biologics. 3. Comorbidities defined by Healthcare Cost and Utilization Project (HCUP) comorbidity software 2016. Agency for Healthcare Research and Quality (AHRQ), Rockville, MD. Abbreviations: EGPA, eosinophilic granulomatosis with polyangiitis; SD, standard deviation



1. Six-months pre-index and 12-months post-index. Abbreviations: SCS, systemic corticosteroids

Figure 2. All-Cause HRU Pre- and Post-Index



1. Six-months pre-index and 12-months post-index. Abbreviations: HRU, healthcare resource utilization

Table 2. Eosinophil Results Pre- and Post-Index<sup>1</sup>

Eosinophil Results	Baseline (EGPA, N = 2,226)	Follow-Up (EGPA, N = 2,226)
≥1 result available, n (%)	455 (20.4)	682 (30.6)
Result count, <sup>2</sup> mean (SD)	1.7 (1.3)	3.0 (3.3)
Last result, mean (SD)	374.2 (1098.4)	492.2 (5214.4)

1. Six-months pre-index and 12-months post-index. 2. Among those with eosinophil result available

Table 3. Corticosteroids (SCS) Post-Index<sup>1</sup>

Corticosteroid Results	Follow-Up (EGPA, N = 2,226)
≥1 claim, n (%)	1,610 (72.3)
Daily dose (among days with claim), mean (SD)	43.6 (95.0)
≥1 day with ≥4 mgs, n (%)	1,609 (72.3)
Days with ≥4 mgs, mean (SD)	64.9 (95.6)
≥1 day with ≥7 mgs, n (%)	1,592 (71.5)
Days with ≥7 mgs, mean (SD)	52.8 (82.0)

1. 12-month post-index. Abbreviations: SCS, systemic corticosteroids

Table 4. All-Cause Healthcare Resource Utilization and Costs

Pre- and Post-Index <sup>1</sup>	Baseline (EGPA, N = 2,226)	Follow-Up (EGPA, N = 2,226)
All-cause HRU count, mean (SD)		
Ambulatory visits	20.4 (15.1)	44.5 (31.0)
Emergency room visits	1.2 (2.5)	2.1 (3.8)
Inpatient stays	0.4 (0.8)	0.9 (1.5)
Inpatient days	4.4 (16.6)	9.5 (25.8)
Pharmacy claims	28.5 (23.6)	63.3 (49.2)
All-cause healthcare costs, mean (SD)		
Pharmacy Costs	\$3,292 (6,419)	\$7,611 (13,973)
Medical Costs	\$18,085 (38,803)	\$41,982 (85,078)

1. Six-months pre-index and 12-months post-index. Abbreviations: HRU, healthcare resource utilization

## Total Mean Costs (Medical + Pharmacy)

**\$21,377**  
6-Month Pre-Index

**\$49,593**  
12-Month Post-Index

## Conclusions

- In the 12-month post-index period, the mean prednisone-equivalent dose across EGPA patients was 4.6 mg/day, while 72.3% of patients had at least one prescription claim for an oral corticosteroid (OCS) and 33% of patients had a prescription for an immunosuppressant.
- This study suggests that newly diagnosed EGPA patients are high utilizers of OCS, with approximately one-third of patients initiating an immunosuppressant.
- EGPA is also associated with significant economic burden.
- Additional research is warranted to better understand the patient journey in this rare disease.

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