ENDO TOPICAL CATEGORY

NEUROENDOCRINOLOGY AND PITUITARY

Somatostatin Receptor Ligand Adherence and Time to IGF-1 Control in Acromegaly: US Real-World Evidence from Linked Claims and EHR Data

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BACKGROUND

- Real-world evidence indicates that acromegaly management is highly variable, with patients frequently cycling through multiple therapies and demonstrating inconsistent adherence and persistence with somatostatin receptor ligands (SRLs).[1]
- Proportion of days covered (PDC), a validated real-world adherence metric, is especially meaningful for injectable SRLs because administration by a health care professional ensures claims data closely reflect actual treatment receipt—unlike oral therapies where fills do not guarantee ingestion.[2-4]
- Despite well-recognized adherence challenges, few studies have evaluated how SRL adherence relates to insulin-like growth factor 1 (IGF-1) control or patient characteristics. This analysis examines the demographics, comorbidities, and medication burden of patients with acromegaly initiating SRL therapy.

OBJECTIVE

- To characterize patients with acromegaly initiating SRL therapy using linked claims and electronic health record (EHR) data, and to evaluate how baseline clinical and demographic factors relate to subsequent SRL adherence and achievement of age- and sex-adjusted IGF-1 control.

CONCLUSIONS

Linking claims with EHR laboratories provides a novel real-world method to assess adherence and biochemical response in acromegaly, highlighting substantial comorbidity and treatment burden.

Higher SRL adherence was strongly associated with faster and more frequent IGF-1 normalization over 24 months, supporting adherence-focused strategies and burden-reducing treatment options.

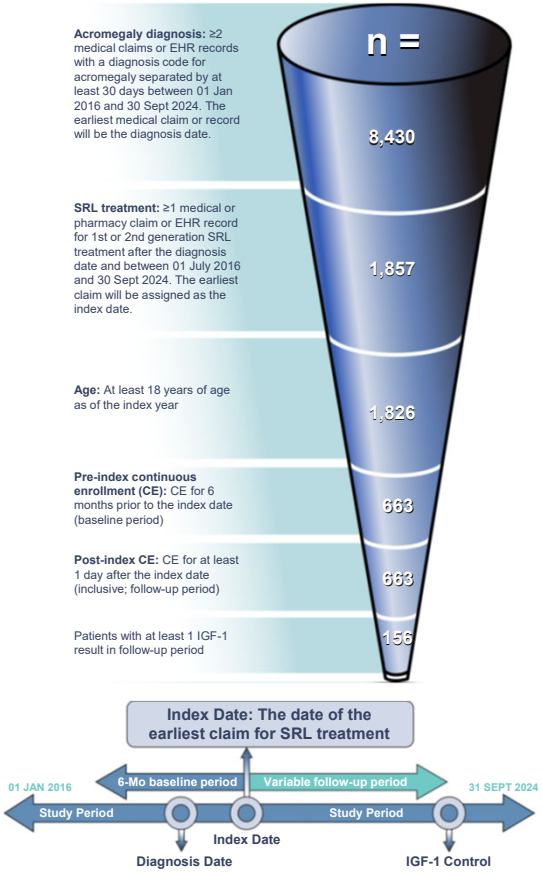
Only 42% of patients achieved biochemical control at 12 months, underscoring the need for stronger adherence support and improved overall management in acromegaly.

METHODS

This retrospective cohort study utilized Optum® Market Clarity Database data from 01/01/2016–30/09/2024. Adults with acromegaly initiating SRL therapy (index = earliest SRL claim) were included. Eligibility required ≥6 months pre-index and ≥1 day post-index enrollment, and ≥1 post-index IGF-1 measurement. IGF-1 control was defined as age- and sex-adjusted normal levels.

- Adherence was defined as PDC ≥0.8. Characteristics were summarized by adherence level. A log-rank test comparing time to IGF-1 control assessed association between adherence and IGF-1 control.
- Select baseline comorbidities common to acromegaly were identified to characterize the cohort's disease burden[5].
- IGF-1 control was defined as age- and sex-adjusted IGF-1 values within the laboratory-specific reference range; time to first post-index IGF-1 control was assessed using Kaplan–Meier analysis with comparisons between high- and low-adherence groups evaluated via log-rank test.
- American Hospital Formulary Service (AHFS) Classification was used to capture the most frequently used medication classes in the cohort to characterize overall disease burden and treatment complexity. Drug classes were identified from claims during the baseline period, summarized descriptively, and stratified by adherence level where appropriate.

PATIENT SECTION CRITERIA



RESULTS

Baseline Characteristics

		Total N=156	PDC ≥ 0.8 n=107	PDC < 0.8 n=49	p-value
Age (continuous)	mean	51.1	51.7	49.6	0.388
Age group, years - n, (%)					
18-39		38 (24.4)	22 (20.6)	16 (32.7)	0.102
40-54		53 (34.0)	41 (38.3)	12 (24.5)	0.091
55-64		36 (23.1)	24 (22.4)	12 (24.5)	0.777
65+		29 (18.6)	20 (18.7)	9 (18.4)	0.961
Sex - n, (%)					
Female		84 (53.9)	59 (55.1)	25 (51.0)	0.632
Male		72 (46.1)	48 (44.9)	24 (49.0)	0.632
Insurance type - n, (%)					
Commercial Only		108 (69.2)	72 (67.3)	36 (73.5)	0.438
Medicaid Only		12 (7.7)	7 (6.5)	5 (10.2)	0.426
Medicare Advantage Only		25 (16.0)	17 (15.9)	8 (16.3)	0.945
Multiple Known		7 (4.5)	7 (6.5)	0 (0.0)	0.067
Other/Unknown/Missing		4 (2.6)	4 (3.7)	0 (0.0)	0.170
Race/Ethnicity - n, (%)					
Non-Hispanic White		117 (75.0)	78 (72.9)	39 (75.6)	0.370
Non-Hispanic Black		10 (6.4)	7 (6.5)	3 (6.1)	0.921
Non-Hispanic Asian		11 (7.1)	9 (8.4)	2 (4.1)	0.327
Hispanic		10 (6.4)	6 (5.6)	4 (8.2)	0.545
Other/Unknown/Missing		8 (5.1)	7 (6.5)	1 (2.0)	0.237
Region - n, (%)					
Northeast		39 (25.0)	27 (25.2)	12 (24.5)	0.921
Midwest		56 (35.9)	40 (37.4)	16 (32.7)	0.568
South		29 (18.6)	21 (19.6)	8 (16.3)	0.623
West		27 (17.3)	17 (15.9)	10 (20.4)	0.488
Other/Unknown/Missing		5 (3.2)	2 (1.9)	3 (6.1)	0.162

- Baseline demographic and insurance characteristics were broadly similar between high- and low-adherence groups, with no significant differences across key variables.

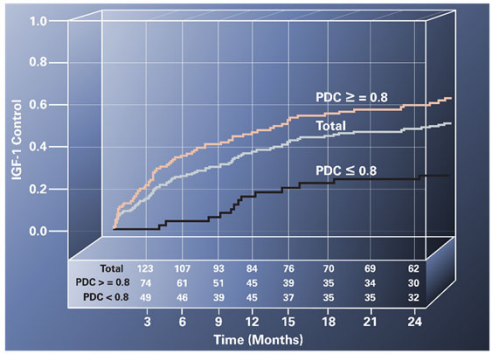
Select Baseline Comorbidities Common to Acromegaly

- Baseline comorbidities commonly associated with acromegaly were summarized to characterize underlying disease burden, revealing a population with substantial multisystem involvement consistent with long-standing, inadequately controlled disease.

	Total N=156; n, (%)	PDC ≥ 0.8 n=107; n, (%)	PDC < 0.8 n=49; n, (%)	p-value
Osteoarthritis	23 (14.7)	18 (16.8)	5 (10.2)	0.279
Hypertension	66 (42.3)	47 (43.9)	19 (38.8)	0.546
Cardiomyopathy	6 (3.9)	3 (2.8)	3 (6.1)	0.317
Heart failure	10 (6.4)	4 (3.7)	6 (12.2)	**0.044**
Sleep apnea	46 (29.5)	33 (30.8)	13 (26.5)	0.584
Nasal polyps	2 (1.3)	1 (0.9)	1 (2.0)	0.569
Scoliosis	6 (3.9)	3 (2.8)	3 (6.1)	0.317
Kyphosis	2 (1.3)	0 (0.0)	2 (4.1)	**0.035**
Carpal tunnel syndrome	18 (11.5)	17 (15.9)	1 (2.0)	**0.012**
Arthropathy	1 (0.6)	1 (0.9)	0 (0.0)	0.497
Arthritis	4 (2.6)	2 (1.9)	2 (4.1)	0.417
Esophageal reflux	29 (18.6)	20 (18.7)	9 (18.4)	0.961

Time to (months) IGF-1 Control

- High adherence (PDC ≥0.8) was associated with significantly faster IGF-1 normalization, with clear separation of Kaplan–Meier curves as early as 3 months and persisting through 24 months.



Baseline High-Frequency Concomitant Medication Classes Based on AHFS Classification System in Patient Cohort

		Total N=156; n, (%)	PDC ≥ 0.8 n=107; n, (%)	PDC < 0.8 n=49; n, (%)	p-value
Count of unique classes	Mean	6.53	6.56	6.46	0.915
Top 10 classes, patients with at least 1 fill					
Somatostatin agonists		61 (39.1)	45 (42.1)	16 (32.7)	0.26
Opiate agonists		40 (25.6)	25 (23.4)	15 (30.6)	0.37
Adrenals		39 (25.0)	27 (25.2)	12 (24.5)	0.921
Thyroid agents		39 (25.0)	32 (29.9)	7 (14.3)	**0.04**
3-Hydroxy-3-methylglutaryl coenzyme A (HMG-COA) reductase inhibitors		37 (23.7)	24 (22.4)	13 (26.5)	0.57
Proton pump inhibitors		30 (12.2)	22 (20.6)	8 (16.3)	0.53
Ergot-derived dopamine receptor agonists		30 (19.2)	24 (22.4)	6 (12.2)	0.13
Beta-adrenergic blocking agents		28 (18.0)	18 (16.8)	10 (20.4)	0.59
Aminopenicillin antibiotics		25 (16.0)	18 (16.8)	7 (14.3)	0.69
Angiotensin-converting enzyme (ACE) inhibitors		23 (14.7)	12 (11.2)	11 (22.5)	.066
Select class, patients with at least 1 fill					
Antidiabetic medication		21 (13.5)	16 (15.0)	5 (10.2)	0.42

Two-sample t-test was used for continuous measures
Pearson chi-square test was used for binary measures

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