VANDERBILT HEALTH | Specialty Pharmacy

Characteristics of pediatric patients prescribed dupilumab for eosinophilic esophagitis at a single academic medical center

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Purpose

Describe a pediatric population prescribed dupilumab for eosinophilic esophagitis (EoE) and evaluate factors that affected time to insurance approval

Methods

Design	Single-center retrospective cohort in the Southeast United States
Inclusion	Pediatric patients prescribed dupilumab for EoE from pediatric gastroenterology clinics from February 1, 2023 to August 1, 2024
Exclusion	Patients 18 years or older

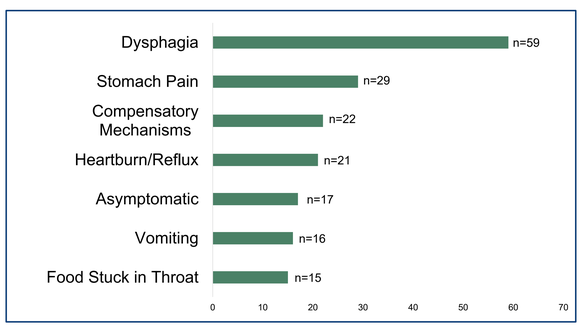
Outcomes	**Primary Outcome**: Time from dupilumab referral to insurance approval
	• Wilcoxon Rank Sum test: time to approval between patients with vs. without initial insurance denial
	• Multivariable logistic regression: relationship between insurance denial and dysphagia
	  • Covariates: dysphagia, insurance type, weight Z-score
	• Cox proportional hazards model: factors associated with time to insurance approval
	  • Variables: dysphagia, insurance type, weight Z-score
	Secondary Outcomes
	• Descriptive statistics

Baseline Demographics (N=117)

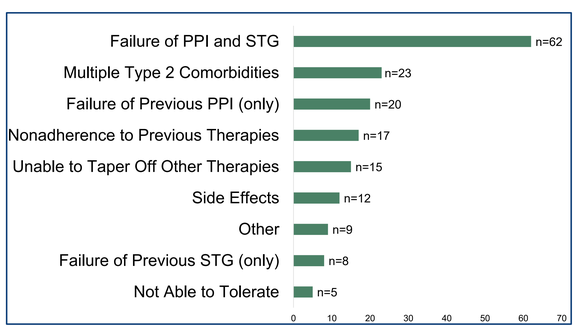
Gender	Age	Primary Insurance	Race	Eosinophils per high power field (eos/hpf)*
77% Male (n=90) 23% Female (n=27)	Median: 13 years, Interquartile Range (IQR) 10,16	48% Commercial (n=56) 44% Medicaid (n=52) 8% Tricare (n=9)	81% White (n=95) 11% Black (n=13) 8% Other (n=9)	≥15 eos/hpf 91% (n=106) < 15 eos/hpf 9% (n=10)

*1 patient - not able to obtain outside records

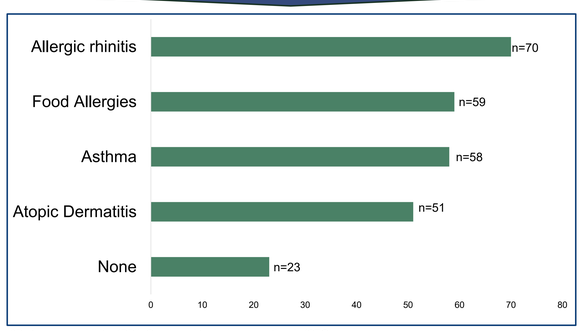
Signs and Symptoms



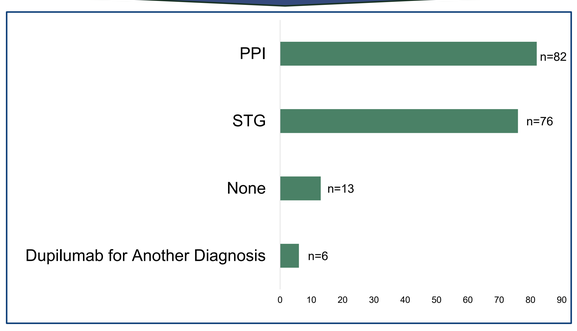
Reasons for Starting Dupilumab



Comorbid Conditions



Medications at Initiation



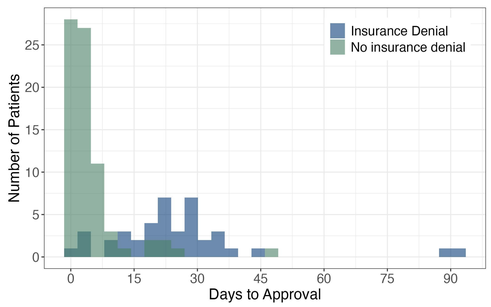
*Proton pump inhibitor (PPI); Swallowed topical glucocorticoids (STG)

CONCLUSIONS

- Most common reasons for initial insurance denial were below FDA-approved age or weight and frequency of dysphagia
- Patients with dysphagia were significantly more likely to receive insurance approval sooner
- Most patients discontinued STG and continued their PPI when starting dupilumab

Results

Figure 1. Time to Medication Access



Initially, **34%** of patients were denied dupilumab by primary or secondary insurance.
100% of patients were approved after appeal.

Median time to approval if initially **approved**: **2 days** (IQR 1,5)

Median time to approval if initially **denied**: **22 days** (IQR 17, 29)

Table 2. Reasons for Initial Insurance Denial

Category	N=40 N (%)
Below FDA-approved age or weight (appropriate)	18 (45%)
Frequency of dysphagia	15 (38%)
Below FDA-approved age or weight (inappropriate)*	6 (15%)
Have not failed STG	5 (12%)
In remission on current therapies	3 (8%)
Have not tried elimination diet	1 (2%)
Have not failed PPI	1 (2%)
Exceeds quantity limit	1 (2%)

*Patient was the FDA-approved age or weight; reasons for insurance denial are not mutually exclusive

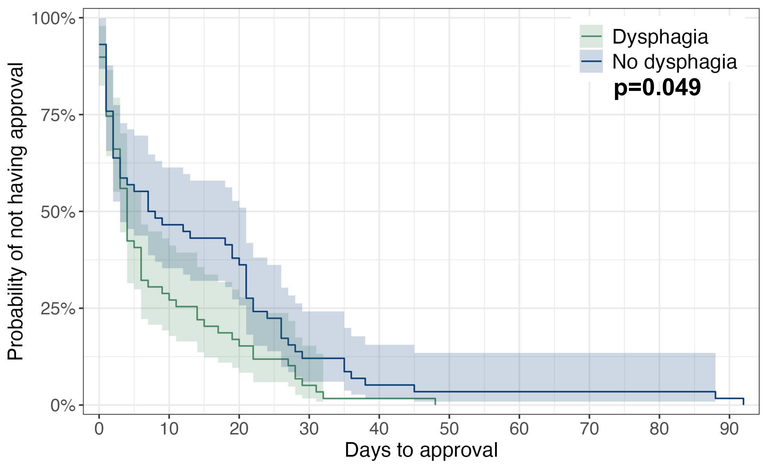
Table 2. Factors Associated with Insurance Denial

	Odds Ratio 95% Confidence Interval	p-value
Dysphagia	0.48 (0.22-1.06)	0.070
Government Insurance	1.41 (0.63-3.14)	0.400
Weight Z-score	0.86 (0.64-1.15)	0.302

Table 3. Factors Associated with Time to Insurance Approval

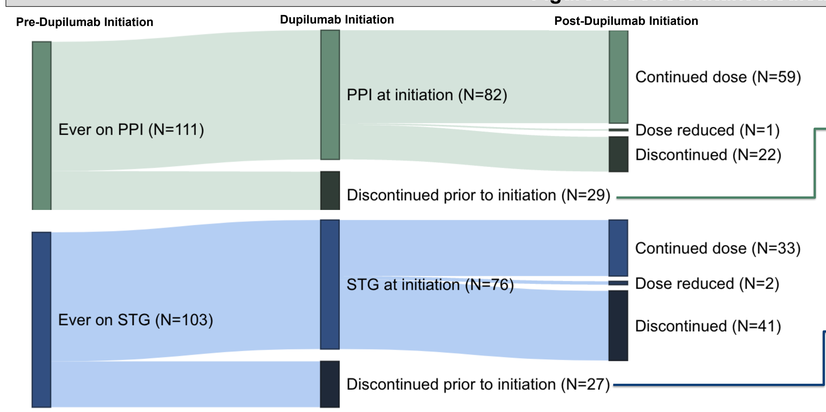
	Hazard Ratio 95% Confidence Interval	p-value
Dysphagia	**1.46 (1.00-2.12)**	**0.049**
Government Insurance	1.06 (0.72-1.55)	0.762
Weight Z-score	1.03 (0.88-1.20)	0.728

Figure 2. Time to Medication Access by Dysphagia Status



Patients with dysphagia at baseline were **less likely to be denied** and **significantly more likely to receive insurance approval sooner**

Figure 3. Concomitant Medications



*Concomitant medication changes are not mutually exclusive

Top 3 Reasons for Discontinuing PPI prior to dupilumab initiation	N=29 N (%)
Not Effective	15 (52)
Nonadherence	6 (21)
Unknown	5 (17)

Top 3 Reasons for Discontinuing STG prior to dupilumab initiation	N=27 N (%)
Not Effective	8 (30)
Nonadherence	7 (26)
Adverse effects experienced	6 (22)