Treatment Patterns with Prescription Dry Eye Medications

Poster #CO10

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BACKGROUND

- Dry eye disease (DED) is characterized by a loss of tear film homeostasis and affects approximately 8.1% of people in the United States (over 27 million individuals in 2024)[1,2]
- Dry Eye Disease (DED) is a multifactorial disease of the tear film and ocular surface characterized by symptoms of discomfort, visual disturbance and tear film instability, with potential damage to the ocular surface leading to redness, burning, stinging and irritation.
- Visual discomfort and inconsistency from DED may interfere with activities of everyday living ultimately impacting the quality of life and well-being of the individual.
- Standard of care is determined by severity of symptoms, beginning with lifestyle modifications, moving to topical treatments and in rare circumstances, surgery.[3]
- Perfluorohexyloctane ophthalmic solution (PFHO) was approved in September 2023, the first in class treatment for dry eye that specifically targets excessive tear evaporation.

STUDY OBJECTIVES

The purpose of this study was to:

(i) describe the demographic and clinical characteristics of early adopters of PFHO and patients starting other DED medications, and

(ii) describe early treatment patterns among patients treated with PFHO and other DED medications.

METHODS

A retrospective, observational cohort study of de-identified data from the Veradigm Network EHR (VNEHR) Database (September 15, 2023 – January 15, 2024) linked to administrative claims database was conducted.

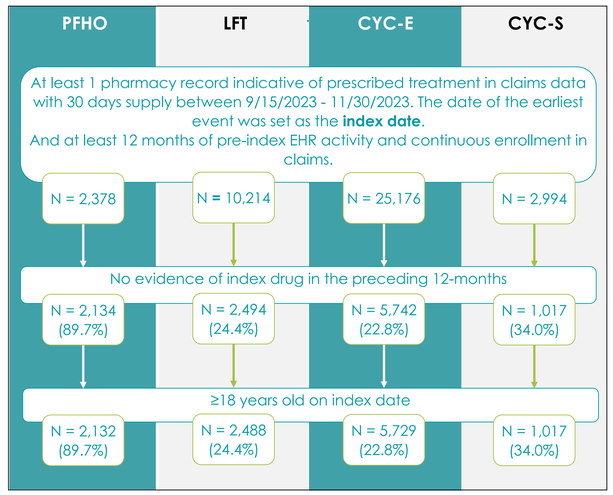
Table 1. Study Selection Criteria

Inclusion	Exclusion
Patients in VNEHR initiating DED treatment between Sep 15, 2023 – Nov 30, 2023 with either perfluorohexyloctane (PFHO), lifitegrast (LFT), cyclosporine ophthalmic emulsion 0.05% (CYC-E) or cyclosporine ophthalmic solution 0.09% (CYC-S); date of first prescription = *index date*	DED index medication use in the 12-months prior to index date
≥18 years of age on the index date	
12 months of continuous enrollment in linked administrative insurance claims data in the pre-index period. Variable length follow-up (min. 45 days, max 122 days).	

RESULTS

- A total of 11,366 patients met the study criteria and were included in the analysis: PFHO (n = 2,132), LFT (n = 2,488 LFT), CYC-E (n = 1,017), and (CYC-S (n = 5,729). (Figure 1)
- All patients had at least 46 days and up to 122 days of follow-up time, depending on their index date.

Figure 1. Patient Selection



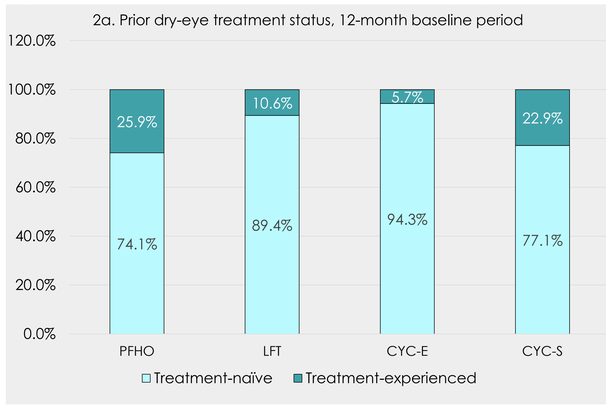
- The majority (79.3%) of patients were female with a mean age of 61.4 years. (Table 2)
- The most common ocular comorbidities in patients were cataract (20.2-24.6% across cohorts) and ocular hypertension/glaucoma (4.5-6.0% across cohorts).

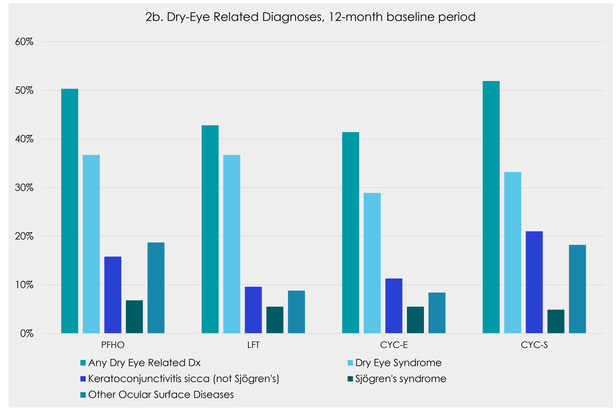
Table 2. Demographic Characteristics, Index Date

	PFHO (N=2,132)	LFT (N=2,488)	CYC-E (N=5,729)	CYC-S (N=1,107)
Age, Mean (SD)	58.92 (13.96)	60.71 (14.66)	63.21 (13.86)	58.09 (13.98)
Male, N (%)	463 (21.7%)	525 (21.1%)	1,166 (20.4%)	203 (20.0%)
Race, N (%)				
White	1,273 (59.7%)	1,350 (54.3%)	3,049 (53.2%)	571 (56.1%)
Black	104 (4.9%)	209 (8.4%)	440 (7.7%)	75 (7.4%)
Asian	139 (6.5%)	169 (6.8%)	410 (7.2%)	84 (8.3%)
Other	262 (12.3%)	344 (13.8%)	811 (14.2%)	134 (13.2%)
Unknown/Not Reported	354 (16.6%)	416 (16.7%)	1,019 (17.8%)	153 (15.0%)
Ethnicity, N (%)				
Hispanic	88 (4.1%)	129 (5.2%)	303 (5.3%)	54 (5.3%)
Non-Hispanic	1,436 (67.4%)	1,628 (65.4%)	3,713 (64.8%)	683 (67.2%)
Unknown/Not Reported	608 (28.5%)	731 (29.4%)	1,713 (29.9%)	280 (27.5%)

- The proportion of patients with a prior prescription dry-eye treatment, other than their index drug, ranged from 5.7% (CYC-S) to 25.9% (PFHO) across index treatment cohorts. (Figure 2a)
- About 40%-50% of patients had a recorded DED diagnosis in the prior 12 months. (Figure 2b)

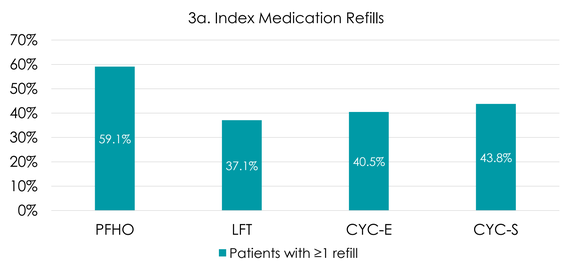
Figure 2. Baseline Clinical Characteristics: Dry Eye-Related Treatment and Diagnosis

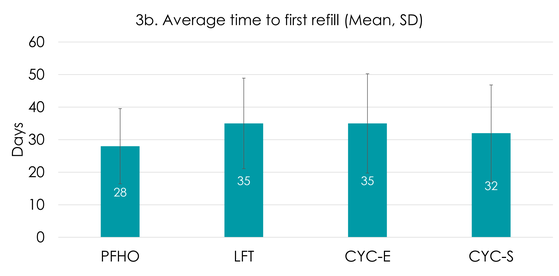




- Across cohorts, about 40%-60% of patients had a refill on their index drug in the study period (Figure 3a)
- 59.1% of PFHO cohort patients had at least one refill with a mean refill interval of 27.6 days on their first refill (Figure 3a,b)

Figure 3. Treatment Characteristics





CONCLUSIONS

Early adopters of PFHO were slightly younger and had a higher proportion of patients with a DED diagnosis compared to other agents.

PFHO tended to have **more treatment-experienced patients** potentially highlighting a subgroup of the patient population who were waiting for a new treatment option for evaporative DED in addition to inflammation.

PFHO patients tended to have **a higher proportion of patients with at least one refill** of the index medication

- Limitations: This study is subject to the typical limitations of using real-world data such as missing data and coding specificity limitations. The data only included insured individuals and may not be representative of the entire US population.

REFERENCES

1. McCann P, Abhraham AG, Mukhopadhyay A. JAMA Opththalmol 2022;140(12):1181-92
2. United States Census Bureau U.S. and World Population Clock. Accessed April 14, 2024. https://www.census.gov/popclock/
3. Akpek EK, et al. Ophthalmology 2019;126(1):P286-P334

ABBREVIATIONS: DED, Dry Eye Disease; PFO, Perfluorohexyloctane ophthalmic solution; HER, Electronic Health Record; CYC-E, Cyclosporine Ophthalmic Emulsion 0.09%; CYC-S, Cyclosporine ophthalmic solution 0.05%; LFT, Lifitegrast