

THE EFFECT OF SYSTANE® COMPARED TO MARKETED ARTIFICIAL TEARS ON DROP PREFERENCE

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Introduction

There are various ways in which tear substitutes may be compared to evaluate whether or not they are favorable for implementation as dry eye management. They may be compared for efficacy in improving the clinical signs of dry eye, such as tear film break-up time (TFBUT), vital dye staining, or ocular protection index (OPI).¹ Artificial tears are also investigated for their ability to alleviate subjective symptoms consistent with dry eye, such as burning, scratchiness, and photophobia, among others. Drops may be evaluated for comfort and the relative degree of side-effects such as blurring or lid-caking. Ultimately, some combination of these factors determines the acceptability of certain tear substitutes to patients and impacts the patient preference of certain drops relative to others. Because patient preference and acceptability can influence dosing compliance and thus the overall efficacy of management, these are important considerations for clinicians when recommending a tear substitute for a dry eye patient.

Systane® Lubricant Eye Drops is an artificial tear which incorporates the gelling agent hydroxypropyl (HP)-guar with the demulcents propylene glycol (PG) and polyethylene glycol 400 (PEG 400). Systane® has been shown in previous studies to extend tear film break-up time longer than other artificial tears² and decrease corneal staining.³ In addition to these improvements in clinical signs, Systane® has demonstrated the ability to significantly reduce symptoms such as morning and end-of-day dryness and foreign body sensation.² As an artificial tear, Systane® is not prone to blurring like dry eye gels, and can be used for repeated dosing.

Objective

To evaluate the effect of Systane® compared to habitual artificial tears (such as Refresh Tears®, Refresh Liquigel®, GenTeal®, Theratears®, and Soothe®) on patient preference as determined by questionnaire, dry eye signs and symptoms, and frequency of artificial tear use.

Methods

In this single-center, randomized, 3-visit study, subjects (N=56) underwent baseline examination and were randomized to receive masked Systane® or their habitual artificial tears for 4 weeks, dosing on an as-needed basis. A 21-question survey queried subjects on common dry eye symptoms. At the final visit, subjects provided drop preference after receipt of masked dosing with Systane® in one eye and their habitual artificial tears in the fellow eye.

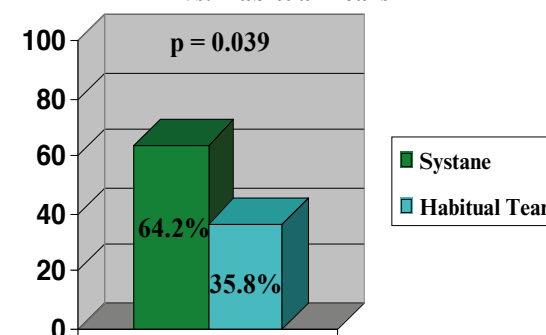
Results

Following contralateral dosing evaluation, 64.2% of subjects reported they preferred Systane® in comparison to 35.8% of subjects who preferred their habitual artificial tears (p=0.039). No differences were observed in the frequency of use between Systane® and their habitual artificial tears.

TABLE 1. Demographics.

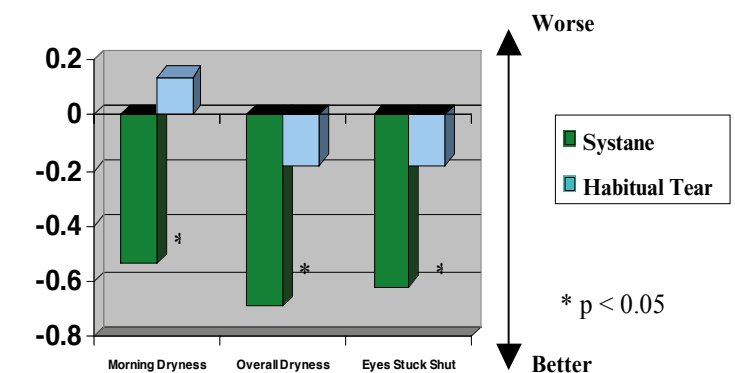
Demographic Characteristic	Systane® Group	Habitual Tear Group
Mean Age	43.8	39.8
Gender (%)		
Male	8 (29%)	10 (36%)
Female	20 (71%)	18 (64%)

Figure 1: Patient Preference of Systane vs. Habitual Tears



Results (continued)

Figure 2: Change in Dryness Scores



With Systane®, patients saw a significant improvement (-0.54 units, p<0.0001) in their scores answering the question “Do your eyes feel dry in the morning?” while habitual drop users actually saw an increase in morning dryness (+0.14 units). Systane® users had a significant improvement (-0.69 units, p=0.040) in scores when asked “Do your eyes ever feel dry?” versus habitual tears (-0.18 units), and displayed a similar improvement in responses to the question “Do your eyes ever get stuck shut in the morning?” (Systane® : -0.62, habitual: -0.18, p=0.033).

Conclusions

These data suggest that:

- In a contralateral comparison, Systane® was preferred by more subjects compared to their habitual artificial tears;
- Systane® was more likely to decrease the tendency of eyes to stick shut and improve morning and overall dryness versus habitual artificial tears.

¹ Ousler GW, Emory TB, Welch D, Abelson MB. Factors that influence the inter-blink interval (IBI) as measured by the ocular protection index (OPI). Poster presented at the Association for Research in Vision and Ophthalmology, 2002; Ft. Lauderdale, FL.
² Christensen MT, Stein JM, Stone RP, et al. Evaluation of the effect of tear film break-up time extension by artificial tears in dry eye patients. Poster presented at the Cornea Research Conference, 2003; Boston, MA.
³ Christensen MT, Cohen S, Rinehart J, et al. Clinical evaluation of an HP-guar gellable lubricant eye drop for the relief of dryness of the eye. Curr Eye Res. 2004 Jan;28(1):55-62.