Factors Associated with Dropout from Silicone Hydrogel Contact Lens Daily Wear #4839

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INTRODUCTION

Discomfort, dryness, redness, poor vision and shorter wear time are associated with drop out from low Dk soft lens daily wear (Pritchard et al 1999. Young et al 2002)..

Rafaeling with silicone hydrogel lens can alleviate some of these problems (Riley et al 2006. Dumbleton et al 2005).

However, drop out from silicone hydrogel lens wear still occurs as we investigated to see if the same factors were leading to discontinuation in silicone hydrogel daily wear (SiHy DW).

METHODS

This was a retrospective, case-control analysis of five SiHy lenses and four lens care solutions:

20 clinical trials were included in the analysis, one for each lens solution combination.

Lenses/solutions were used for 3 months by approximately 40 participants per combination.

Lenses: lotrafilcon A, lotrafilcon B, galaficon A, senofilcon A, balaficon A

Solutions: ClearCare/AOSept Plus, AQuify MPS/Focus AQUA, Opti-Free Express, Opti-Free Replenish

Participants who discontinued after baseline (DC) were compared to those who completed each trial (controls).

Data from scheduled study visits and a 2 month telephone questionnaire were analysed using chi-square tests and linear mixed model analyses.

RESULTS

84.9% of participants who attended visits after baseline successfully completed the 3 month trial (Figure 1). The non-adverse event related discontinuation rate was 10.7% in the first three months.

The additional 4.5% of participants who discontinued after an adverse event were excluded from the case control analysis.

Reasons for non-adverse event related discontinuation are shown in Figure 2.

Compared to those completing each trial, a greater proportion of DC participants were less than 20 years old (p<0.001), and were new to lens wear or SiHy lenses (p<0.001).

There was no difference in gender, ethnicity, lubricating drop usage, no clinical difference in over-refraction sphere, uncorrected cylinder, visual acuity or all lamp-ocular physiology between the two groups.

Subjective ratings and symptoms that were significantly different between the DC participants and controls are presented in Figures 3, 4, 5 and 6.

DISCUSSION

The discontinuation rate/reasons for discontinuation may be under represented.

The subjective factors and symptoms that are significantly associated with discontinuation are likely to be influenced by lens-solution interactions.

The analysis was not statistically powered to detect differences in discontinuation rate/reasons between lens solution combinations.

The next step is a multivariate analysis of discontinuations to look at the driving factors and control variables in lenses and solutions.

CONCLUSION

In this study, the rate of subjective comfort related discontinuations was greater than those due to adverse events.

In SiHy DW, poor comfort, dryness, self reported redness, self reported poor vision and reduced wear time remained indicators for drop out from lens wear.

REFERENCES


Dumbleton K et al 2006. Eye Contact Lens 32(6):281-6

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