Differences in climate and population are also likely to studies were conducted in the United States and the continuous wear of silicone hydrogel lenses. These studies have found an increased risk of CIEs with multivariate logistic regression, after adjusting for within subject correlation, was used to develop the statistical model.

Materials and methods

Students for this study were residents of Andra Pradesh, India. The study was conducted at the L V Prasad Eye Institute in Hyderabad. A total of 188 subjects were dispensed with lenses in this single-site study.

Results

Demographics

- Age (less than 25 and greater than 50)
- Refractive error greater than 6 diopters
- Previous history of ocular inflammatory event
- Smoking
- Corneal staining
- Limbal redness

Differences in climate and population are also likely to influence contact lens related adverse events.

Materials and methods

The subjects for this study were residents of Andra Pradesh, India. The study was conducted at the L V Prasad Eye Institute in Hyderabad.

A total of 188 subjects were dispensed with lenses (commenced on May 23 2005) in this single-site study.

Lenses used in this study were lotrafilcon A silicone hydrogel lenses.

Subjects wore the study lenses on a 30-night continuous wear (CW) schedule.

Materials and methods

The subjects for this study were residents of Andra Pradesh, India. The study was conducted at the L V Prasad Eye Institute in Hyderabad.

A total of 188 subjects were dispensed with lenses (commenced on May 23 2005) in this single-site study.

Lenses used in this study were lotrafilcon A silicone hydrogel lenses.

Subjects wore the study lenses on a 30-night continuous wear schedule with monthly replacement.

Lenses were dispensed at the baseline visit and follow-up visits were scheduled at 1 night, 1 week, 3 months and 6 months after starting CW.

Multivariate logistic regression, after adjusting for within subject correlation, was used to develop the statistical model.

Results

Demographics

- Age
- Male : Female
- Neophyte : Experience

Spec Rx sphere (D) -2.83 ± 1.43

Spec Rx cylinder (D) -0.17 ± 0.29

Figure 1. Demographic data of subjects dispensed with lenses

Lens Type

- Power (D)
- Base Curve (mm)
- Diameter (mm)

Iotrafilcon A -1.00 to -6.00 8.6 13.8

Figure 2: Lens parameters

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Figure 2: Lens parameters

Factor

- Odds Ratio
- p Value
- 95% Confidence Interval

Corneal Vascularisation (Any vs None) 12.33 0.001 2.86 53.2

Microbial Contamination of Lenses 2.78 0.002 1.43 5.4

Occupations in ideal environment 1 - - -

Occupation in non-ideal environment 6.24 0.003 2.1 40.45

Students 2.2 0.203 0.65 7.43

Primary Gaze Movement (per change in 0.1 mm) 0.56 0.027 0.398 0.935

Figure 3: Risk factors

Occupational environment was also a contributing factor, confirming that a duty of clinicians is to ascertain the nature of the work environment of lens wearers (and potential wearers) and to balance the needs of the wearer with the potential risks.

Acknowledgements

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References


7. Prasad Eye Institute for eye Research, Sydney, 2School of Optometry and Vision Science, University of New South Wales, Sydney, Australia 3L V Prasad Eye Institute, Hyderabad, India

Conclusion

A multitude of factors, including environmental influences, lens contamination, ocular characteristics and lens fit contribute to the development of inflammatory events.

Contamination of the lens appears to confer the highest risk of developing an infiltrative event indicating that patient hygiene, compliance and local environment play a critical role with these types of events.

Conclusions

- Occupations in non-ideal environments were found to predispose wearers to CIEs (p=0.003).
- Wearers who had varying degrees of exposure to ocular irritants in their work environment (dust, fumes, water splashes to face) had the highest incidence of CIEs (19.2%).
- Wearers in a controlled, ideal environment (indoors, administrative type work) had lowest levels of events (3.3%).
- Students occupied a position between the two groups (9.3%).
- CIE rate was higher among wearers with increased microbial contamination of lenses (p=0.002). Wearers with an infiltrative event had mean CFU of 1.97 log compared to mean CFU of 1.45 log in group with no infiltrative event.
- Corneal vascularisation was associated with the development of CIEs (p=0.001), with 50% of wearers with vascularisation experiencing events compared to 7.6% of subjects with no vascularisation.
- Reduced lens movement was associated with CIEs (p=0.027).

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Conclusion

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