Impact on gas-permeable contact lens parameters after storage in a non-neutralized hydrogen peroxide case during 1 to 30 days.

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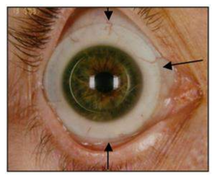
INTRODUCTION

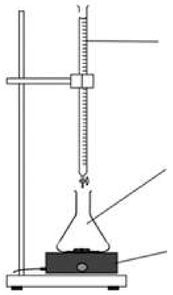
Hydrogene peroxide is more widely use to clean and store rigid gas permeable lenses

Scleral lenses are prescribed to treat eye disease. Patients may benefit from a hydrogen peroxide-based preservative-free care regimen. However, the size of the lenses does not fit into the basket provided by the manufacturer.

Logically, because scleral lenses does not absorb solution, a regular contact lens case may be used, provided that a thouroughful rinsing step is done before lens wear.

There were few studies on the impact on contact lens parameters of long-term in a non-neutralized peroxide solution.



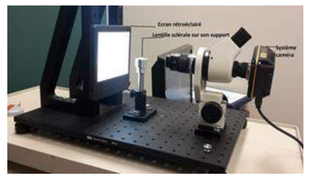


PURPOSE

To evaluate the impact of a non-neutralized hydrogene peroxide soluton on scleral lens parameters

METHODS

Clean diagnostic scleral lenses (Hexafocon B) were stored for 1,3,7,and 30 days in a regular contact lens case, with a hydrogene peroxide solution (Clear Care, Alcon US)



Lens parameters were assessed after lens soaking (base curve, power, diameter)

Lens wetting angle was measured –
sessile drop technique

Hydrogene Peroxide concentration was measured.

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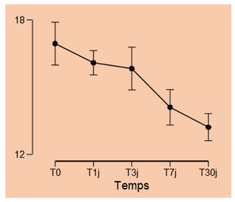
RESULTS

No change in lens parameters during the experimentation

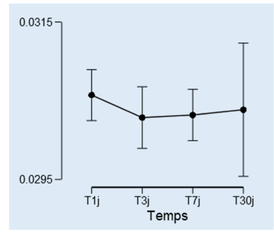
Wetting angle improved by Day 7
$F(4,72) = < 0{,}001$; $p < 0{,}05$; $\omega^2 = 0{,}448$

Hydrogene Peroxide contentration remained stable over time



Wetting angle

H2O2 concentration



CONCLUSION

Hydrogene Peroxide can be used in regular non -neutralizing case with no impact on lens parameters

May represent an interesting option for patients wearing larger scleral lenses . May represent a very good alternative for lens storage in office