INTRODUCTION

Retinal degenerations are the main cause of blindness in the first world. In Europe, they currently affect millions of people, and it is expected an exponential increase because of the rise in the life expectancy, the greater exposition to light, and the loss of the natural protection meant by the ozone layer. The retinal neuro-degeneration can be prevented, stopped, and treated by means of implanting optical filters to block the of short-wave length radiations of the light spectrum reaching the ocular system.

The efficiency of the treatment incorporated in the contact lenses has been shown in experimental studies carried out for 4 years with rats, mice, and rabbits. However, it is necessary to know the biocompatibility of the asepticification, cleaning, and maintenance solutions for this type of contact lenses, and determine the parametrical changes likely to take place in the cleaning process.

Aim: Determining the physical compatibility properties (diameter, power, and transmittance) in contact lenses with filters blocking the short-wave length bands after a cleaning process with the multipurpose solution All Clean ® (Avizor), according to the ISO 11981:2010 regulations.

MATERIALS AND METHODS

Measurement of physical parameters in contact lenses before and after a process of cleaning with the multipurpose solution All Clean Soft: 3 cycles, with 10 cleaning protocols in every cycle, and 3 measure registries (30 cleanings/lens, with intervals of 4 hours)

- Soft lens analyzers ChiliCharm (diameter)
- Spectrophotometer Humphrey System (power and transmittance)

RESULTS

**DIAMETER**

- Variation in CL without filters
- Variation in CL with filters

**POWER REFRACTION**

- Variation in CL without filters
- Variation in CL with filters

**UVB TRANSMITTANCE**

- With no variations due to cleaning

**UVA TRANSMITTANCE**

**VISIBLE TRANSMITTANCE**

- Variation in CL with filters

CONCLUSIONS

After the cleaning process with the treatment All Clean®, it is shown a variation in the physical parameters for both types of contact lens materials. However, these changes are not clinically-significant because they are within the tolerance ranges established in the ISO regulations. The maintenance solution for contact lenses All Clean® keeps the physical compatibility properties within an acceptable range.

REFERENCES