

SCLERAL LENSES IN THE MANAGEMENT OF DIFFERENT DISEASES (CASE STUDIES)

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Scleral lenses are large-diameter rigid gas permeable lenses. They can range from 14 mm to over 20 mm in diameter. Scleral lenses functionally replace the irregular cornea with a perfectly smooth optical surface to correct vision problems caused by keratoconus and other corneal irregularities.

Aim: of the study is to demonstrate the benefit of the scleral lenses in the management of different diseases (case studies), based on the results provided by the subjective & objective findings and corneal topography where was possible.

Method: The authors present clinical cases of 7 patients, aged between 25-59 years old, who came to the Medical Center "Oculus Prim" with different complaints as: gradual decrease of the visual acuity (VA) or other eye problems.

In some cases at the corneal topography were detected different complex deformation of the cornea.

Within the center were chosen the suitable scleral lenses.

Result: Several types of corneal abnormality as keratoconus, pellucid corneal degeneration, severe astigmatism, condition after CrossLinking, corneal dystrophy were managed successfully with modern scleral lenses. The main indication was optical correction of an irregular corneal surface. Satisfactory clinical performance meant that all the patients could continue to wear their scleral lenses.

Conclusion: Scleral contact lens represents a promising alternative in contact lens treatment for corneal problems considered to be difficult to fit with more traditional rigid lenses.

EVALUATION OF AQUEOUS FLARE AFTER DESCMET'S STRIPPING ENDOTHELIAL KERATOPLASTY AND PENETRATING KERATOPLASTY

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Purpose: Evaluation of aqueous flare in patients after Descemet's Stripping Endothelial Keratoplasty (DSEK) and Penetrating Keratoplasty (PK) performed of various indications.

Material and methods: In a prospective study 17 eyes in 16 patients were examined. First group consisted of 8 eyes after DSEK, second: 9 eyes after PK. The first procedure was performed of Fuch's dystrophy - 4 eyes, bullous keratopathy - 4 eyes. The indications in the second were as follows: keratoconus - 2 eyes, corneal cicatrix without neovascularization - 3 eyes, endangering corneal perforation - 4 eyes. Examined group mean age was respectively 67 and 69 years. The overall examining time was six months after the surgery. In the paper aqueous flare was evaluated in the anterior chamber in 1st, 3rd and 6th month after keratoplasty in FM-600 Laser Flare Kowa. Abovementioned device function is based on emission and detection of light produced by diode laser. Keratoplasty was performed in general (No 9) or in local peribulbar (No 8) anaesthesia.

Results: Mean aqueous flare in 1st, 3rd, and 6th month after keratoplasty is significantly lower after DSEK (14,46 +/- 4,70 ph/ms; 10,64 +/- 2,91 ph/ms; 5,98 +/- 2,53 ph/ms) in comparison with PK (18,50 +/- 5,82 ph/ms; 15,04 +/- 6,38 ph/ms; 10,68 +/- 3,83 ph/ms). In 6 months observation the mean flare value in DSEK was decreased twice in comparison with PK. Considering indication for

keratoplasty mean flare measurements were respectively in 1st, 3rd and 6th month for first group: Fuchs' dystrophy: 11,85 +/- 5,46 ph/ms; 8,28 +/- 1,80 ph/ms; 4,93 +/- 0,95 ph/ms; bullous keratopathy: 17,08 +/- 1,89 ph/ms; 13,00 +/- 1,27 ph/ms; 7,03 +/- 3,32 ph/ms. In second group respectively: keratoconus: 15,15 +/- 1,34 ph/ms; 11,95 +/- 0,49 ph/ms; 11,25 +/- 0,64 ph/ms; corneal cicatrix without neovascularization: 16,40 +/- 9,27 ph/ms; 12,13 +/- 9,85 ph/ms; 6,87 +/- 4,20 ph/ms; endangering corneal perforation: 21,75 +/- 2,54 ph/ms; 18,78 +/- 3,21 ph/ms; 13,25 +/- 1,92 ph/ms. In the analysis of indications for keratoplasty the lowest mean aqueous flare in 1st, 3rd, and 6th month after procedure was observed in the Fuchs' dystrophy. In endangering corneal perforation mean flare values were the highest.

Conclusions: Our results indirectly indicate that in examined patients after DSEK post-operative inflammatory reaction is lower than in PK. Furthermore flare values might depend on the indications for keratoplasty. The study was performed in group with various indications for keraoplasty. Further studies including protein concentration in AH after DSEK and PK performed in equal indications are needed.

THE USE OF TCL IN THE PATHOLOGY OF OCULAR SURFACE

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Therapeutic contact lenses (TCL) are special contact lenses used for the treatment of ocular surface diseases.

The aim of this study is to show our experience in using TCL in different diseases of ocular surface.

We used TCL in the treatment of:

- **Medical diseases:**

Conjunctival diseases:

Ocular pemphigoid, Stevens Johnson syndrome

Corneal diseases:

- epithelial-superficial punctate keratitis, filamentary keratopathy, keratitis sicca, corneal abrasion, recurrent corneal erosion, corneo-conjunctival burns
- stromal: profound corneal sterile ulcerations;
- endothelial: aphakic/ pseudophakic bullous keratopathy, Fuchs' endothelial dystrophy

- **Surgical diseases:**

- small penetrating corneal wounds
- large corneal wounds without endoocular membrane issue until suture
- aphakic and pseudophakic bullous keratopathy;
- large filtration bulla after trabeculectomy with athalamia;
- pterigium surgery.
- cataract surgery
- after photorefractive keratectomy for antialgic effect and restoration of binocularity

We used TCL for next purposes: pain relief, improving corneal re-epithelization, tectonic effect, permitting binocular vision

TCL are offering great benefits in ocular surface pathology.

Reducing pain, avoiding ocular patch, restoring binocularity, TCL improve the quality of life for our patient with ocular disorders.