A PROPOSAL FOR RELIABILITY INDEXES FOR ENDOTHELIAL EXAMS WITH SPECULAR MICROSCOPE

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Purpose: To demonstrate how reliability indexes improve the results of endothelial cell density (ECD), cell area (A), coefficient of variation (CV) and hexagonal percentage (%H) from corneal specular microscopes (CSM).

Methods: 200 examinations from CSO no contact CSM. The ECD, A, CV and %H will be calculated through CSO software. With these results, the software Cells Analyzer - Corneal Endothelial Statistical Lab will calculate the reliability indexes: calculated sample error (CSE), calculated endothelial sample size (CESS), endothelial cell counted (ECC). The sample accuracy was 95% reliability degree (RD) with 0.05 relative error (RE). The effect of the reliability indexes on the results of the examinations with the cells of only one image (Group I) and with more cells than the sample size calculated by the Cells Analyzer (Group II) with all cells in as many images as necessary, will be demonstrated by the Confidence Interval (CI) to the ECD, A, CV and %H. The range of CI for ECD, A, CV and %H will be compared between Groups I and II ("t" Student: p<0.05 will be statistically significant).

Results: The reliability indexes demonstrate that 100% of specular microscopy examinations can be done with 95% of RD. The range of 95% CI of the ECD, A, CV and %H were statistically significant (p<0.05) smaller when the reliability indexes from Cells analyzer were used.

Conclusion: The reliability indexes improved the precision of the results of endothelial examinations. The authors suggest that all brands of specular microscopes include these indexes in their reports.