NEW METHODOLOGY TO ANALYZE ENDOTHELIAL DATA, BY AGE CONTROL, THROUGH SPECULAR MICROSCOPES

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The corneal endothelial data calculated during the corneal specular examinations are: 1. Endothelial cell density (ECD), Cell area (A), Coefficient of Variation (CV) to describe the polymegathism, and Hexagonal Cell Percentage (%H) to describe the pleomorphism. It is known that all these results change during the lifetime considering that the corneal endothelial cells not present clinically significant mitosis, these cells dead by apoptosis (0.56% per year).

Purpose: To demonstrate the proportion of specular microscopy data, by age control, that can be analyzed with corneal specular microscopes (CSM), and possibilities of endothelial diagnosis.

Methods: 2,293 examination with more endothelial cells than sample size calculated by Cells Analyzer with 95% reliability degree and relative error <0.05. The CSM calculates ECD, A, CV, and %H to describe the pleomorphism. The age control of the Cells AnalyzerPat. for endothelial data will be the range of normal values determined by a data bank of 1,045 examinations during the lifetime of an eye without corneal disease. The Statistical-Analytical rulers (SAR) of the Cells AnalyzerPat. will be used for the analysis of the ECD, A, CV and %H relative to the normal range of age. The endothelial diagnosis will be described and showed through frequency.

Results: All data were included inside the range of the SAR for ECD, A, CV and %H, and demonstrated under age control eight possibilities for endothelial diagnosis.

Conclusion: SAR were objective to analyze endothelial examinations under age control and classify the ECD, A, CV, and %H on eight possibilities of endothelial diagnosis.