

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo PIBIC

Last Name - Ferraz
First Name - Caroline
Middle - Amaral

Service (sector)
Cornea and External Disease

Nº CEP

Structural Analysis of the corneal endothelium in diabetes mellitus.

Ferraz, C.A., Nakano, E.M., Alvarenga, L.S., Morales, P.H., Freitas, D.

Purpose: To evaluate corneal endothelium morphologic characteristics of diabetic patients using specular microscopy, in an attempt to verify whether their corneal endothelium has significant abnormalities.

Methods: We studied 60 corneas from 30 patients recruited from a diabetic retinopathy-screening program (Mutirão do Olho Diabético) and 66 corneas from age/sex matched voluntary non-diabetic controls. Those with previous intraocular surgery, glaucoma, iritis and Fuchs dystrophy were excluded. Central corneal endothelial photographs were taken using a wide field specular microscope of all subjects and controls and afterwards dilated indirect ophthalmoscope was also performed. Endothelium cell density and its morphology were compared between these two groups.

Results: In the diabetic group 13 were male and 17 were female, with a mean age of 59.73 y and duration of disease of 10 years. The control group included 13 male and 20 female with a mean age of 57.42 y. The man – Whitney test showed no significant difference of age between the two groups. The mean endothelial cell density was 2661.01 cells/mm in the diabetic group and 2732,48 cells/mm in the control group. ($p = 0.600$) (Mann-Whitney).

Pleomorphism and polymegathism were classified into absent/low and moderate/ severe. The diabetic group presented moderate and severe pleomorphism in 70% of the cases and controls presented 45% of the moderate and no cases severe, this difference was statistically significant. We found the same results analyzing polymegathism, which was absent in 78% of corneal endothelia studied in control group present, classified as moderate/severe in 25% in the diabetic group.