

Effect of Diabetes on Central Corneal Thickness

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Abstract:

Aims: To compare the central corneal thickness of diabetic and non diabetic patients.

Study Design: Case-control study.

Methods: From the out-patient clinics of Al-Shifa Trust Eye Hospital adult patients with diabetes were selected as cases and age and gender matched patients without diabetes were selected as controls. Patients with any ocular or systemic condition which affects the corneal thickness, patients with history of corneal or intraocular surgery and contact lens wearers were not considered. Central corneal thickness of all patients was measured using the Topcon specular microscope. The corneal thickness of diabetics was compared with non diabetics. Data was analyzed with SPSS version 17.

Results: From September – December 2010, 100 diabetic and 100 non-diabetic patients were selected based on the inclusion and exclusion criteria. In these 200 selected cases, mean age in years was 53.83 ± 8.52 (range 30-70 years). There were 91 (45.5%) female and 109 (54.5%) male patients. Among diabetics, duration of diabetes in 46 patients was <10 years and in 54 patients it was ≥ 10 years. Visual acuity and central corneal thickness were recorded in each patient. The mean CCT value in diabetics was $508.22 \pm 32.28 \mu\text{m}$ and in non diabetics was $509.62 \pm 31.61 \mu\text{m}$. Using independent t-test there was no significant difference in central corneal thickness of diabetics and non diabetics. In addition there was no significant difference in CCT of non diabetics and diabetic patients with diabetes of duration <10 years or ≥ 10 years.

Conclusion: Our study showed that there was no significant difference in the central corneal thickness of diabetic and non-diabetic patients.

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