

Original Paper

Relationship between central corneal thickness, intra ocular pressure and visual field in normal tension and primary open angle glaucoma

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Abstract

Background and Objective: Glaucoma is one of the most important cause of blindness worldwide. Exact determination of intra ocular pressure is important for the diagnosis and decision making about glaucoma treatment. Central corneal thickness is considered as effective factor on intra ocular pressure and visual field defect. This study was carried out to determine the relationship between central corneal thickness, intra ocular pressure and visual field in normal tension and primary open angle glaucoma.

Materials and Methods: This descriptive study was carried out on 45 eyes with normal tension glaucoma and 45 eyes with primary open angle glaucoma in Al-Zahra ophthalmology hospital in Zahedan, Iran during 2010. Intra ocular pressure and central corneal thickness were measured by Goldman tonometer and pachymeter and visual field exanimated by Humphrey perimeter. Data were analyzed using SPSS-16, paired t-test, ANOVA, Mann–Whitney and Pearson corlateion tests.

Results: There was significant correlation between central corneal thickness and intra ocular pressure ($r=0.309$, $P<0.05$). A significant difference was detected in intra ocular pressure between two type of glaucoma ($P<0.05$). Mean value of central corneal thickness in patient with mild visual field defect was higher than severe visual field defect but there was not significant statistical difference between central corneal thickness and visual field defect in subjects with glaucoma.

Conclusion: This study indicated that increasing corneal thickness is accompanied with intra ocular presure.

Keywords: Central corneal thickness, Intra ocular pressure, Visual field defect, Glaucoma

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Received 8 May 2011

Revised 3 September 2011

Accepted 5 September 2011