عنوان مقاله:

The Association Between the Transforming Growth Factor Beta-1 -509C>T Gene Polymorphism and Primary Open Angle Glaucoma in North Eastern Iran

محل انتشار:

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خلاصه مقاله:

Background: Glaucoma is a common cause of irreversible blindness. Transforming growth factor beta-1(TGF-β1) is the main isoform of TGF-β superfamily in the eye. Overexpression of TGF-β1 is shown to be related with the glaucoma. Studies have shown that the presence of mutant T allele of TGF-β1 -509C>T polymorphism (rs1800469) is associated with increased gene expression. So, in present study, association of the TGF-β1-509C>T gene polymorphism and primary open angle glaucoma (POAG) in patients from north east of Iran was investigated. Methods: A case-control study was conducted on 112 POAG patients and 112 control participants. TGF-β1-509C>T genotyping was done by PCR-restriction fragment length polymorphism (PCR-RFLP) method using Bsu36I restriction enzyme. Moreover, cup to disk ratio(CDR), intraocular pressure (IOP) and visual acuity (VA) were measured. The obtained results were statistically analyzed. Results: The highest frequency of genotype in the control group was related to CC genotype (44.6%), but the heterozygous CT genotype (45.6%) was observed as the highest frequency

of genotypes in patient group (P value: 0.022, OR for TT genotype: 2.54 CI95% for OR: 1.22, 5.27). Also, the frequency of the T mutant allele showed a significant difference between case and control groups (P value: 0.005, OR: 1.73 CI95% for OR: 1.18, 2.53). Conclusions: In conclusion, a significant association was seen between TGF-β1 -509C>T gene polymorphism and POAG disease and inheritance of mutant T allele is considered to be a risk factor for glaucoma in patients living in North Eastern part of Iran.

کلمات کلیدی:

Glaucoma, PCR, TGF-beta1, Polymorphism.