

GENETIC POLYMORPHISMS AND LATANOPROST RESPONSE IN A SPANISH GLAUCOMATOUS POPULATION

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Purpose: To determine if single nucleotide polymorphisms (SNPs) of genes coding for Prostaglandin F2a receptor gene (*PTGFR*) and Metalloproteinases (*MMPs*) -1,-2,-3,-9 and -17 are related to latanoprost response in a Spanish glaucomatous population. **Methods:** Glaucoma diagnosis was made following the preferred practice patterns of the American Academy of Ophthalmology. Response to Latanoprost (Xalatan- Pfizer Labs) was classified either as responders or nonresponders according to the criteria stated by the Latanoprost Study Group: nonresponders= intraocular pressure (IOP) reduction 15% of baseline, responders IOP reduction 15% baseline IOP. Genotyping (Iplex™ Assay) was performed in 117 primary open angle glaucoma patients with minimum treatment duration of 4 weeks. Statistical multiple comparison tests were performed and association evaluation with contingency tables analysis and odds ratio (OR) estimation for the SNPs studied was performed. **Results:** Five *PTGFR* SNPs were associated either with a positive response (rs6686438, rs10786455) or non-response (rs3753380, rs6672484, rs11578155) to latanoprost. In the studied sample, four subhaplotypes of *MMP-1* gene showed a significant association (p0.01) with a non-response to Latanoprost (present in 20% of nonresponders to latanoprost). Genes *MMP-2,-3, -9 and -17* did not show significant association. **Conclusions:** SNPs of the *PTGFR* and *MMP-1* genes may determine latanoprost response in a Caucasian European Spanish population. **Financial Disclosure:** This work was funded by Pfizer Laboratories through a research grant. None of the authors have any financial interest.