GENETIC POLYMORPHISMS AND LATANOPROST RESPONSE IN A SPANISH GLAUCOMATOUS POPULATION

F. Ussa1, F. Blazquez2, I. Fernandez2, A. Carracedo3, M. Brion3, H. Soeldner1, R. Juberias2, J. Pastor2
1Ophthalmology Department, The James Cook University Hospital, UK
2IOBA - Glaucoma Unit, University of Valladolid, Spain
3Centro Nacional de Genotipado, CeGen, Spain

Purpose: To determine if single nucleotide polymorphisms (SNPs) of genes coding for Prostaglandin F2α 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 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 (p<0.01) 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.