

# Global Ophthalmology and Glaucoma Conference

October 13-15, 2016 Kuala Lumpur, Malaysia

## Genetic association of catechol-O-methyltransferase val(158)met polymorphism in Saudi primary glaucoma patients

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Primary glaucoma (PG) refers to a diverse group of ocular disorders that are characterized by retinal neurodegeneration, visual field defects and blindness. The etiology of PG is attributed to multifactorial mechanisms. Increasing evidence indicates that oxidative stress (OS) plays a major role in ocular pathologies. Several molecules are able to regulate intraocular pressure (IOP). Adrenergic, cholinergic, serotonergic, and dopaminergic systems are all involved. Catechol-O-methyl transferase (COMT) may be a candidate gene for PG that encodes an enzyme involved in the metabolic inactivation of dopamine. We examined a possible association between the COMT Val158Met polymorphism and PG. Saudi subjects including 210 unrelated PG patients and 177 matched controls were analyzed for allele and genotype distribution of COMT Val158Met polymorphism. We found significant differences in allele and genotype frequencies between patients and controls. The frequencies of Met(158) allele (A) and genotype Val(158)Met (GA) were significantly higher in patients compared to those in controls. On the other hand, the frequencies of Val(158) allele (G) and genotype Val(158)Val (GG) were significantly higher in controls than those in patients. We found a significant association of the COMT Val158Met polymorphism with PG. Upon stratification of our results into POAG and PACG, the distribution of frequencies genotypes followed similar pattern in PAOG and PACG. These results provide evidence for a role of COMT Val<sup>158</sup>Met polymorphism in the etiopathology of PG (PAOG and PACG) in Saudi population. It appears that the association of COMT Val158Met polymorphism with PG is not mediated by gender.

### Biography

Hamoud Al-Shahrani completed his M.B., Ch, B from Alexandria University, Alexandria, Egypt. He is Ex- Director of Prince Sultan Military Medical City, Saudi Arabia. Earlier he was Director of Academic Affairs & Training Riyadh Military Hospital. He has published several papers in reputed journals. He is associated with several ongoing projects on genetic basis of dermatological diseases in Saudis.

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