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IS THE SEVERITY OF AUTISTIC TRAITS DETERMINED BY GENETIC VARIANTS OF THE OXR AND CD38 POLYMORPHISMS IN CONJUNCTION?

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Several recent studies demonstrated that different single nucleotide polymorphisms of the oxytocin receptor gene are associated with impairments of social behavior including the heritability of autism. Another focus of attention has been the CD38 protein, which stimulates the release of oxytocin in the blood stream and probably in the brain. The objective of this study was to investigate if the prevalence and severity of autistic traits in a healthy sample of academic students is influenced by two different SNPs, OXR rs53576 and CD38 rs3796863. For that purpose, 134 students of our university (99 women) answered the self-report questionnaires on autistic traits (The Adult Autism Quotient (AQ), Empathy Quotient (EQ), and Systemizing Quotient (SQ)) and were genotyped by cheek swab. Comparisons between men and women did not confirm reported findings that women have higher scores on the EQ and lower scores on AQ and SQ. However, it was observed that women have less autistic traits on the communication subscale (AQ). Excepting for CD38 rs3796863 on one subscale, where the homozygote for the risk allele C showed higher attention to details than the heterozygotes and homozygotes AA, no other significant results were found. Nonetheless, a tendency of interaction between the investigated OXR and CD38 polymorphisms was observed. OXR rs53576 GG and CD38 rs379863 CC genotype was associated with more severe autistic traits in comparison to OXR rs53576 GG and CD38 rs379863 AA/AC genotype, which suggest that these genetic variants modulate the prevalence of autistic traits in conjunction.

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