

## AB132. The role of oxytocin-neurophysin I in contributing to human personality traits and plasma immunogenic oxytocin levels

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**Background:** Oxytocin plays a salient role that oxytocin plays in contributing to the high levels of human sociality that characterize our species. Curiously, the OXT-Neurophysin I gene has been little studied despite the fact this is the structural gene for the oxytocin nonapeptide.

**Methods:** In a large group of National University of Singapore (NUS) Han Chinese undergraduate students we examined four SNPs in the OXT-neurophysin I region. For approximately 1,000 of these students, we also had data on immunogenic plasma oxytocin levels. The students were investigated for several phenotypes relevant to social cognition, including empathy and spirituality.

**Results:** Neurophysin I rs3761248 is associated with

spirituality, emotional quotient (EQ) and neuroticism. For both spirituality and EQ, there were interactions with gender and the A allele was associated with lower scores for females but with no effect on males, in tune with female-specific findings for autistic-like traits and moderation of the neuro activation of dopaminergic system in the brain. For the personality traits, significant associations were found when POIP was included as a covariate. Both rs3761248 females and males with A alleles scored higher on the met neuroticism measure and lower in agreeableness and conscientiousness. These results suggest that the A allele of rs3761248 is associated with traits that lead that resonate with stress and adverse health, such as high neuroticism, low conscientiousness and agreeableness, as well as low spirituality and low EQ.

**Conclusions:** This is the first study showing an association between neurophysin I and human personality traits related to autism.

**Keywords:** Oxytocin; neurophysin I; association; autism quotient; personality

doi: 10.21037/atm.2017.s132

**Cite this abstract as:** A Chong, Lai PS, Chew SH, Gouin JP, Ebstein RP. The role of oxytocin-neurophysin I in contributing to human personality traits and plasma immunogenic oxytocin levels. *Ann Transl Med* 2017;5(Suppl 2):AB132. doi: 10.21037/atm.2017.s132