

P03-393

HIGH RATE OF PREVALENCE OF CLOCK 3'UTR POLYMORPHISM rs1801260 AND A NOVEL VARIATION: ASSOCIATION WITH DIURNAL PREFERENCE

B. Paul¹, G.M. McAlonan¹, M. Banerjee²

¹Psychiatry, The University of Hong Kong, Hong Kong, Hong Kong S.A.R., ²Human Molecular Genetics, Rajiv Gandhi Centre for Biotechnology, Trivandrum, India

There are a number of reports which show CLOCK 3111 T/C SNP rs1801260 is associated with 'eveningness' circadian type, but the results are not consistent across different populations. The present study tried to address the effect of CLOCK polymorphisms on Diurnal preference in the South Indian population. 108 subjects were genotyped for rs1801260 polymorphism by direct sequencing. Demographic data was collected from genotypically stratified groups of subjects using a modified sleep wake cycle questionnaire. Data from the questionnaire recorded the subjects sleep wake pattern and their peak performance time of the day. The sequencing data was aligned and analyzed using Mutation Survey software for new mutations. We found a new variation in the 3'UTR region of the CLOCK gene (BankIt1368312 Seq1 HM626403, BankIt1368312 Seq2 HM626404) which may be a possible miRNA binding site. Our study found that CLOCK 3111 T/C polymorphism is negatively associated with Eveningness with a significance of 0.038. We found that the prevalence rate of rs1801260 is high and the ancestral genotype is associated with eveningness. Though the sample size was small this was a homogenous group from south India selected for the study. It is the first study in south Indian population to document the effect of CLOCK polymorphisms on Circadian rhythm.