

Serotonin (5-hydroxytryptamine; 5-HT) is a neurotransmitter in the central and peripheral nervous systems. Serotonin transporter 5-HTT plays an important role in serotonergic transmission and the serotonin transporter gene is under investigation in connection with multiple psychiatric disorders. Three polymorphisms, an insertion/deletion and SNP in the promoter region and a variable nucleotide tandem repeat (VNTR) in intron 2, influence expression of the *5-HTT* gene. We examined these polymorphisms at the serotonin transporter protein locus (SLC6A4) in three specific and representative cohorts drawn from the Czech population. These cohorts were stratified according to their age: a) randomly selected elderly individuals (over 75 years of age), b) young adults (age ranging between 19-45 years) and c) newborns, all with balanced gender representation.

The two regions were amplified and resolved on a 2% agarose gel and/or analyzed using the capillary electrophoresis in order to discriminate length polymorphisms. SNP in intron 2 was examined by RFLP after using *MspI* restriction.

This analysis revealed that elderly individuals were statistically more likely than controls to carry two copies of the L allele of the length polymorphism. This may be due to the protective character of L allele, which is associated with lower susceptibility to bipolar affective disorder, depression, alcohol dependence and neuroticism.