Abstract

RhD polymorphism is an evolutionary enigma since the very discovery. Theoretically, the RhD- allele carriers should be eliminated through the negative selection against RhD positive children born to RhD negative mothers. The aim of this diploma thesis was to find out whether RhD positive heterozygous genotype is associated with the reduction of latent toxoplasmosis negative effects or even associated with improved psychomotor performances, memory or higher self-confidence, intuition and cognitive performances scores. Second of all, the aim of this thesis was to find out if RhD negative homozygotes exhibit worsened performances in the abovementioned characteristics and, consequently, see whether RhD polymorphism origin and maintenance could be achieved through the heterozygote advantage. General linear models that included listed variables, RhD genotypes and phenotypes, information about toxoplasma-infection status and age as a covariate were performed. Heterozygote Advantage hypothesis was supported in operational memory models and in case of women also in psychomotor performances models. On the other hand, models of short-term memory, self-confidence, intuition and cognitive performances scores did not support the formulated hypothesis.

Keywords

RhD polymorphism, selection favouring heterozygotes, latent toxoplasmosis, psychomotor performance, operational memory