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ASSOCIATION OF rs1800795 POLYMORPHISM OF IL-6 GENE WITH HEALTH STATUS IN CROATIAN ELDERLY POPULATION

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Increases in serum cytokine IL-6 have been proposed as a reliable marker of functional decline, morbidity and mortality in old age. The results of studies exploring the role of rs1800795 polymorphism of IL-6 gene in longevity have however been conflicting. The aim of this study was to test the association between the rs1800795 and indicators of biological age in 324 oldest old people living in institutions (85-101 yrs). Analysis of a wide spectrum of variables associated with health status included noninvasive biometric measurements (anthropometry, blood pressure measurement, ultrasound bone densitometry), common biochemical blood tests (lipid, glycemic and protein status) and self-rated health. Altogether 41 variables were entered into the principal component analysis (PCA), which resulted in the extraction of four significant factors, among which the first factor represents body mass and composition, the second one represents sex differences, while the third one represents general health. This study revealed a significant association of rs1800795 with the factor of general health in Croatian elderly sample indicating that the high IL-6 producer genotype (GG) carriers have better scores in personal independence, motility and self-rated health, suffer less from chronic and acute illness and use fewer medications. In conclusion, significant association of rs1800795 polymorphism with biological age variables in the 85+ year olds indicates a pleiotropic effect of IL-6 gene on human health. Targeted studies are needed to explore further this relation in different elderly populations.

Biography

Petra Krajacic is Ph.D. student at Faculty of science (Department of Biology, Zagreb University, Croatia). In her dissertation she conducted an association study of four most important polymorphisms of longevity genes (p53, IL-6, TNF, SIRT1) and diverse phenotypic traits, like motility, independence, life satisfaction and the presence of age-related disease, of 325 very old age people (85+). This research is a part of a Complex traits variation and health in children, adults and centenarians project founded by the Ministry of Science, Education and Sports.

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