Abstract

Aging of population with related increase of incidence of neurodegenerative diseases mostly Alzheimer disease (AD), poses a serious socioeconomic problem. In the recent years, research has been focused on specific early disease markers and identifications of patient's populations at increased risk of AD, which comprise mild cognitive impairment (MCI) and subjective cognitive decline (SCD) which may represent prodromal and preclinical stage of AD, while still preserving functional capacity.

This thesis summarizes and further extends current knowledge in the field of AD with a specific focus on early disease markers. The main topic of the thesis is spatial navigation, especially its allocentric component and path integration. Examination of spatial navigation might serve as the valuable diagnostic tool which could be used in wider clinical practice for timely diagnostics, disease monitoring and also for evaluation of the treatment effect.

We also present here experimental tests (questionnaires of subjective spatial navigation complaints and tests of visual perception) that have enough sensitivity and specificity for identification of subjects at risk for AD.