



CHARLES UNIVERSITY  
Third Faculty of Medicine

Supervisor's opinion

PGS: Anastasiya Lahutsina, M.D.

Altered morphology of white and gray matter in patients with Alzheimer disease and Schizophrenia on MRI

Charles University, 3rd Faculty of Medicine

Neurosciences

Prof. MUDr. Petr Zach, CSc.

The present thesis by Anastasia Lahutsina, M.D. is a theoretical, neuroanatomical study of changes in selected areas of the cerebral cortex, basal ganglia and hippocampus in patients with schizophrenia and Alzheimer's disease on MRI. The thesis is the result of the involvement of a student with an interest in neuroanatomy in the NUDZ and AD Center teams of the FNKV, where she participated in the selection of patients and controls from databases, prepared software for volumetric analysis, performed manual recognition and identification of anatomical boundaries of cortical and subcortical regions of the CNS. In addition, she performed measurements of the area, length and course of the convolutions and grooves between the cortical convolutions, measurements of the hippocampal area and participated in the identification and delineation of the white matter of the basal ganglia for DTI tractography. Once the results were measured, she worked with a statistician to develop an appropriate model for evaluating the results and interpreting them correctly. This then resulted in three journal publications with a cumulative IF = 18,879.

The student has mastered basic MRI image analysis techniques, both manual and semi-automated, and plans to pursue other important projects related to brain imaging. For these reasons, I take the liberty of recommending the Dissertation of Anastasia Lahutsina, M.D., for the defense of her Ph.D. degree in the Neuroscience program.

Prof. Petr Zach, M.D., Ph.D

Supervisor of the Departmental Board of Neuroscience

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