

ABSTRACT

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Thesis Title: Microvascular Changes in the Retina of the Eye in Schizophrenia and Depression

Introduction: Mental disorders affect an increasingly large part of the population and negatively affect the quality of life of patients. The course, relapses and therapy of these diseases depend on the early initiation of therapy. Increasing the quality of treatment, diagnosis and assistance for disabled individuals are the main reasons why we started this research.

Aim of the work: The main aim of our work was to assess the association between microvascular changes in the retina of the eye and psychological disorders, namely schizophrenia and depression. We also paid attention to demographic and clinical factors that could influence these changes. We were also interested in the etiopathogenesis, treatment and influence of inflammation on schizophrenia and depression, anatomy and vascular supply of the eye or a detailed description of the retina and its pathology.

Methodology: The largest part of the research took place at the Psychiatric Clinic of the Faculty Hospital in Hradec Králové. The research sample involved 255 subjects divided into four groups – schizophrenic patients, depressed patients, healthy relatives and healthy non-relatives. In all individuals, we evaluated photographs of the retina of the eye taken with a Fundus camera FF450 from Zeiss at the Eye Clinic of the Hradec Králové Faculty Hospital. We were interested in the dimensions of arteries and venules. In addition, we distributed questionnaires to the participants in order to obtain clinical and demographic data, such as age, non/employment, marital status, education, inflammatory markers, pharmacotherapy and other that could influence vessel dimension.

Results: We found significant differences in vessel dimensions between all three groups – schizophrenic patients, depressed patients and healthy individuals. Individuals suffering from depressive disorder had the widest dimensions of both arteries and venules in the retina of the eye. Schizophrenic patients had slightly narrower arteries and venules compared to depressed patients, but they were significantly dilated compared to healthy controls. However, the influence of individual variables from the questionnaire on vessel dimensions was not confirmed.

Conclusion: Mental disorders are relatively difficult to diagnose, assessed based on consultations, questionnaires and scoring scales. However, these are very lengthy methods and often lead to many inaccuracies. The results of our research could in the future lead to the improvement of diagnostic methods or the understanding of new therapeutic targets for the treatment of schizophrenia and depression.

Key Words: schizophrenia, depression, retina, microvascular