22 Abstract

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Title: Multiple sclerosis – laboratory aspects

Bachelor work

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 Field of study: Medical laboratory technician, combined study form

Background: Bachler work thesis is written as a literary review. The main effort is to point to the diagnosis of multiple sclerosis, to set out its main risk factors highlighted immunological background and last but not least, to find possible biomarkers of disease.

Main findings: Multiple Sclerosis (MS) is an inflammatory auto-immune disease affecting especially the younger generation. When the disease causes damage to the myelin -protective layer of axons (neuronal projections), it is characterized by inflammatory lesions in the brain causing CNS dysfunction.

MS history dates back to the 14th century , although the reversal in the diagnosis of the disease occurred only in the 20s. Diagnosis is difficult because symptoms of the disease are not uniform. With technological advances, however, the diagnosis is considerably improved. Nowadays, diagnostic processes are based on a particular variety of laboratory tests including Magnetic resonance imaging. Very useful is the test of the cerebro spinal fluid, as well as other markers of the disease.

RS is determined genetically and immunologically. T - cells and Treg cells play a significant role in the pathogenesis of the disease. Steroid hormones also have an impact on the diseases. To develop the disease, we classify also other factors such as the environment, diet, as well as geographical deployment of the population.

Conclusions: Previously MS treatment relied solely on boosting the immune system, nowadays it is a number of therapeutic methods which significantly improves the general condition of the patient. Although still not identified all the causes of the disease, it is already available to a number of drugs that improve the overall standard of living of the patient. Potential biomarkers MS may help in faster detection of the disease, and hence to early therapy.