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*Tambieva Fatima Ismailovna,  
Student, Stavropol State Medical University;  
Shevchenko Petr Petrovich,  
PhD, assistant of Neurology department,  
Stavropol State Medical University,  
Karpov Sergey Mihaylovic,  
MD, professor, Stavropol State Medical University  
E-mail: potoshka282@gmail.com*

## **Features of debut of pediatric multiple sclerosis**

**Abstract:** This article is devoted to study of children's multiple sclerosis (MS), which is an urgent problem of modern medicine. In recent years MS incidence among children increased significantly all over the world including Russia. A lot of causes of MS remain unexplored but there already have been done a great breakthrough in discovery of pathogenic mechanisms of development of inflammatory and destructive process.

**Keywords:** multiple sclerosis, children.

**Topicality:** Until recent time multiple sclerosis was considered to be an adult disease only. But now it is established that in last decades children's cases of the disease are being recorded more often; moreover, in recent years the incidence of MS has increased significantly all over the world and, particularly, in Russia.

**Purpose of the article:** Analysis of the debut of multiple sclerosis in children.

**Results:** Due to the fact, that in childhood multiple sclerosis is usually monosemiotic, diagnosis is significantly

complicated. After long attack comes long remission, that's why diagnosis is mostly retrospective, when there is aggravation of multifocal lesions of the nervous system. Among the risk factors of MS in children a special attention is paid to structural changes in the white matter of the brain, that are found in newborns with hypoxic encephalopathy [6]. By the age of six months the amount of healthy children's antibody titers is almost equal to normal limit of adults, and, at the same time, 12% of 2–3 year children are being identified

to have antibody titers to galactocerebroside, and the amount of which 2 times exceeds an adults' usual amount of titers [7]. It's already known that the level of antibody production to glutamate receptors is also dependent on the age. In some children those titers remain for a long time. It must be emphasized that increased titers of antibodies to galactocerebroside, which are contained in the myelin membranes and cells myelin-producing cells, and to glutamate receptors, which activate neurotransmitter nitrogen oxide production, having a direct toxic effect on oligodendrocytes, create background for the development of demyelinating process in the central nervous system. Debut of MS at the age of 10 years implies

a more favorable course of the disease, whereas the debut at the age of 12–14 characterized by severe course with frequent exacerbations [8].

**Summary:** The question about the prognosis of multiple sclerosis, which debut in childhood remains unsolved. There are a lot of cases of benign and malignant course of MS in children. Taking into consideration the difficulty of clinical diagnosis of MS in childhood, only complex approach using modern methods of examination allows making an early diagnosis and appropriate treatment, provide an important adherence which is essential to prevent progression of disease and deterioration of the patient.

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*Frantseva Anastasia Petrovna,  
Karpov Sergey Mihailovich,  
Khatuaeva Aminat Aubekirovna,  
Stavropol Medical State University,  
Assistant of the Neurology Department  
E-mail: a-frantseva@rambler.ru*

## A state of visual analyzer according to the reverse color chees type pattern in case of patients with type 1 diabetes

**Abstract:** The visual analyzer with an evaluation of its functional state at the time of the pulse and the response of the cortical structures presented stimuli. Results of the study revealed that diabetes mellitus in the structures of the visual analyzer significantly ( $p < 0,01$ ) increased in the latent period of the colored stimulus, relative to the control group and the performance of black and white pattern.

**Keywords:** diabetes, evoked potentials, visual analyzer.

### Introduction

Among the pathological conditions of the nervous system, resulting in diseases of the endocrine glands, a special place is occupied by neurological disorders in diabetes mellitus (DM) [1]. This is due not only to the prevalence of these disorders, but their severity, a significant influence on the

prognosis and quality of life. DM is one of the most common diseases in the world. According to experts, by 2025 the total number of people with diabetes will reach 324 million people [3; 7; 11]. Currently, in Russia, about 8 million people suffer from diabetes and the number is constantly growing. [11] Despite the fact that the proportion of type 1 diabetes from