

New rehabilitation method outcomes in children with cerebral palsy

Authors: Bolshova Alina
Tutors: PhD Nathan Gendelman
University: First Moscow State Medical University named after I.M. Sechenov
Country of University: Russian Federation

Abstract:

Introduction: Cerebral Palsy (CP) is the most common physical disability in childhood. It appears due to perinatal brain injury, affects child development causing movement, posture and activity limitations. Neurorehabilitation in children with CP is based on the processes related to the high plasticity of the nerve tissue. LIFE-rehabilitation and education program includes 1) individual therapeutic and psychological approach 2) normalization of the internal functioning through diet, juicing and vitamin therapy, 3) active functional training to stimulate changes in the internal pressure and organs, provide active tissues flexion 4) massage therapy 5) teaching parents to perform LIFE-methodic at home at the permanent daily bases. All patients were observed and treated in Health in Motion Rehabilitation Center (Toronto, Canada).

Materials and methods: 11 children (aged 2-4) with bilateral spastic CP and a Gross Motor Function Classification System of level I were assigned to 1 month daily LIFE treatment with 2 month follow up. According to their parents and doctor's initial observation patients were not able to hold head, roll, crawl, stand and switch from one position to another, experienced drooling and constipation problems. LIFE-program intervention was provided 3-hours daily and was followed with 1-hour massage. All participants were evaluated initially and at the final assessment after LIFE-program at the clinic and 2 month later after home training with parents. Changes in motor and functional abilities were assessed based on Gross Motor Function Measure-66.

Results: Patient defined participation improved and was accompanied by achievement of new transitional and functional movements in all cases. By the end of first month significant improvements were observed in Gross Motor Function Measure-66 results in all 11 patients - all children gained ability to roll and significantly improved their excretory function, head control and drooling, 4 children learnt to switch from laying to sitting position and 1 child - from sitting to kneeling and started to crawl. 2 month follow up after home training by parents proved that results did not regress.

Conclusion: LIFE - Rehabilitation may greatly help cerebral palsy patients achieve their full potential. One session LIFE- program induced significant changes in patient defined participation, positioning, functional mobility and motor functioning.

Keywords: Cerebral palsy, neurorehabilitation, physiotherapy

Contact authors at: alina.bolshova@inbox.ru

Features atopic reactivity in school-age children with severe asthma

Authors: Uliana Marusyk
Tutors: Olena Koloskova
University: Bukovina State Medical University
Country of University: Ukraine

Abstract:

Introduction: According to published data in 50-70% of children developing asthma that is difficult to treat. The ineffectiveness of inhaled corticosteroids, which is the basis of basic therapy of asthma, can be due, perhaps, the presence of different phenotypes of the disease, including phenotype "severe asthma". To establish the diagnostic value of indicators atopic reactivity in the verification severe asthma phenotype to improve treatment outcomes in school-age children.

Materials and methods: 60 school-age children with asthma were examined. Over the course of the disease patients were divided into two clinical groups. The first group consisted of 30 patients who had been registered severe asthma. The second group formed 30 students who have asthma defined moderate. For the main clinical signs were matched comparison group. Contents of serum total immunoglobulin E (IgE), IL-4 and IL-5 were analyzed for all children. Immediate type of skin sensitivity to standard Nonbacterial allergens was identification by intradermal tests.

Results: The concentration of IL-4 in serum children first group was $10,6 \pm 2,1$ pg/ml, and in those of the second group - $7,2 \pm 2,5$ pg/ml ($P > 0,05$). The average content of interleukin-5 in the clinical group was $35,8 \pm 15,7$ pg/ml and $8,6 \pm 4,3$ pg/ml ($P > 0,05$) respectively. Almost every third patient first group (36,4%) recorded significantly increased content of IL-4 (more than 10,0 pg/ml), whereas in the second group surveyed - only 15,5% of cases ($P < 0,05$). Concentration of IgE, which exceeded 545,3 IU/ml, recorded in 56,6% of children first group and only 43,4% of cases in the second ($P > 0,05$) group. The amount of hyperemia more than 15,0 mm was recorded in 81,5% of the first group and only 51,9% of persons ($R < 0,05$) second. Due to the low sensitivity of the content of IL-4 and -5 in serum them impractical for use on their own verification phenotype of severe asthma. The concentration of immunoglobulin E in excess of 545,3 IU/ml, in 2 times increased the chances of the presence of severe asthma in children.

Conclusion: Increased sensitivity to domestic allergens (hyperemia over 15,0 mm) allows to verify the specificity of 81,5% severe asthma and personalize treatment policy in these patients.

Keywords: Bronchial asthma, children, interleukins, immunoglobulin

Contact authors at: sunocher@ukr.net