

Diagnosis of somatic dysfunctions in young children osteopathic method

I.A. Egorova¹, E.L. Kuznetsova¹, K.E. Trubnikov²

(¹Institute of Osteopathic Medicine, St. Petersburg Medical Academy of Postgraduate Education, ²Urban pediatric diagnostic center, St. Petersburg)

Summary

A comprehensive examination (NSG, ultrasound of the cervical spine, ultrasound scan with duplex scanning of the great vessels of the head, ENMG, somatic and neurological status, monitoring of respiratory and cardiovascular activity, osteopathic status) of children in the first three years of life with somatic dysfunctions. The main clinical, instrumental and osteopathic changes in age groups are compared.

Resume

We have taken a complex examination (neu-rosonography, US-sing of jugular of vertebral column, blood circulation of the vessels of the brain, electroneuromyography, somatic and neurological status, monitoring of respiratory and cardiovascular activity, osteopathic status) of first three years children with somatic dysfunctions. The comparison of basic clinical, instrumental and osteopathic changes in age groups is carried out.

Introduction

“Somatic dysfunction is an impaired function of interconnected components of the somatic system: skeletal, articular and myofascial structures and their vascular, lymphatic and nerve elements” (World Health Organization, Geneva, June 2005). Somatic disorders lead to deep disorders of all organs and systems.

Unfavorable demographic processes in our country are accompanied by sharp deterioration in somatic, physical, mental and reproductive health. According to the Ministry of Health of the Russian Federation, the incidence of children of all age groups has increased significantly in recent years [7]. According to a set of medical and psychological-pedagogical criteria, half of 6-year-old children are not ready for schooling.

Recent studies in many areas of medicine (neonatology, pediatrics, neurology, psychiatry, etc.) indicate that, along with hereditary and social factors that contribute to an increase in the occurrence of diseases of the nervous system, respiratory system, gastrointestinal tract, urinary system and musculoskeletal of the motor apparatus in children, the leading place is occupied by perinatal injuries, in the structure of which somatic dysfunctions occupy a significant place [2, 3, 4, 5, 6].

Along with this, the predetermining role of somatic dysfunctions is noted.

in the further psychomotor development of children (physical and somatic growth, neurological, motor, visual, cognitive, auditory, linguistic and psychosocial development). The problem of diagnosis, interpretation of somatic dysfunctions and their manifestations, the complexity of identifying the causes of these disorders, the difficulty and duration of correction, the severity of the developing processes, their social and physical consequences, make the use of new, effective methods of diagnosis and treatment urgent [1, 3]. In this regard, it becomes relevant to study the effectiveness of methods of traditional medicine and, in particular, osteopathic.

The purpose and objectives of the study

The aim of the study is to improve the diagnosis of somatic dysfunctions using the osteopathic method.

Research objectives

1. To determine the incidence of somatic dysfunctions in children early age.
2. Analyze the main factors contributing to the occurrence of somatic dysfunctions.
3. To study the leading clinical and instrumental and osteopathic manifestations of somatic dysfunctions in young children.
4. To evaluate the effectiveness of diagnostics of somatic dysfunctions in children osteopathic method.

Materials and methods

To solve the set tasks, we undertook a comprehensive clinical, instrumental and osteopathic examination of 197 full-term infants with somatic dysfunctions who were admitted for outpatient examination and treatment in the first three years of life. The study was carried out on the basis of the City Children's Diagnostic Center and the Institute of Osteopathic Medicine of the St. Petersburg Medical Academy of Postgraduate Education. On the basis of an in-depth examination, 87 children with structural changes were excluded: anomalies in the development of various organs and systems, hemorrhage, ischemia, infection, tumors, genetic predisposition, endocrine pathology, metabolic disorders. Of the total number of examined children, 110 children were identified, who were divided into two age groups. The first group consisted of infants, i.e. first year of life,

To objectify the effectiveness of osteopathic diagnostics, we compared the main clinical, instrumental and osteopathic changes in young children. When conducting the study, we used the following methods: clinical method, which includes taking anamnesis and analyzing its results; somatic, neurological, speech therapy statuses, osteopathic method, laboratory diagnostics, radiation diagnostics (neurosonography, ultrasound of the spine, ultrasound of the abdominal cavity, ultrasound of the hip joints), X-ray, Doppler ultrasound with duplex scanning

great vessels of the head, electroneuromyography (ENMG), monitoring of cardiac and respiratory activity.

Results obtained and their discussion

The study was based on an analysis of the obstetric history of pregnancy and childbirth.

Attention is drawn to the high percentage of long-term childbirth (57.2%), and the use of benefits in childbirth in almost all children (95%) and in all childbirth stimulation (100%), while only in 11.3% of cases surgical delivery was noted (8.3% - emergency caesarean section). Statistical processing revealed a statistically significant effect of the duration of labor and the use of obstetric benefits on the incidence of somatic dysfunctions (P <0.001 according to Fisher's criteria and -2).

An analysis of the frequency of complaints showed a wide range of manifestations of somatic dysfunctions in children. The installation position of the head was noted in 50% of cases, regurgitation in 67%, difficulty in nasal breathing in 34%, sleep disturbance in 76%, motor and emotional anxiety in 82%, impaired sucking in 23%, difficulty in swallowing solid food in 11%, impaired appetite in 23%, impaired stool in 46%, impaired urination in 19%, impaired movement in the limbs in 33%, anxiety in the tongue in 76%.

Along with this, the leading clinical manifestations of somatic dysfunctions were: dysplasia of the hip joints (65%), obstruction of the nasolacrimal canal (21%), rhinitis (33%), otitis media (15%), adenoiditis (43%), vegetative disorders (marbling of the skin, hyperhidrosis of the palms and feet) (67%), dyskinesias of the gastrointestinal tract (functional dyspepsia 81%, irritable bowel syndrome 78%, aerophagia 76%), neurogenic bladder dysfunction (19%), speech disorders (100%). Neurological examination revealed the following symptoms and syndromes: unilateral pyramidal deficiency (more often left-sided) in 100% of cases, expanded thoracic aperture - West's symptom in 87%, short neck symptom in 97% of children, abundance of transverse folds on the neck in all patients, setting or a fixed head position in 73% of cases, the presence of asymmetry, tension or shortening of the cervical muscles, as well as a violation of the relationship of spinous or transverse processes on palpation in 100%, intracranial hypertension syndrome in 43% of children, neuro-reflex excitability syndrome in 47%, hyperdynamic syndrome in 87% and vegetative-visceral syndrome in 67% of the examined, all children had speech impairment. At the same time, in children of the first age group, it was used as the leading diagnosis of hypoxic-ischemic damage to the central nervous system, and in children of the second age group, minimal cerebral dysfunction (MMD). Thus, with such a polymorphism of clinical manifestations, it is not surprising that it is difficult to assess the child's condition, and hence the impossibility of selecting an effective pathogenetic therapy. as well as violation of the relationship of spinous or transverse processes on palpation in 100%, syndrome of intracranial hypertension in 43% of children, syndrome of neuro-reflex excitability in 47%, hyperdynamic syndrome in 87% and vegetative-visceral syndrome in 67% of the examined, all children had violation of speech development. At the same time, in children of the first age group, it was used as the leading diagnosis of hypoxic-ischemic damage to the central nervous system, and in children of the second age group, minimal cerebral dysfunction (MMD). Thus, with such a polymorphism of clinical manifestations, it is not surprising that it is difficult to assess the child's condition, and hence the impossibility of selecting an effective pathogenetic therapy. as well as violation of the relationship of spinous or transverse processes on palpation in 100%, syndrome of intracranial hypertension in 43% of children, syndrome of neuro-reflex excitability in 47%, hyperdynamic syndrome in 87% and vegetative-visceral syndrome in 67% of the examined, all children had violation of speech development. At the same time, in children of the first age group, it was used as the leading diagnosis of hypoxic-ischemic damage to the central nervous system, and in children of the second age group, minimal cerebral dysfunction (MMD). Thus, with such a polymorphism of clinical manifestations, it is not surprising that it is difficult to assess the child's condition, and hence the impossibility of selecting an effective pathogenetic therapy. hyperdynamic syndrome in 87% and vegetative-visceral syndrome in 67% of the examined, all children had speech impairment. At the same time, in children of the first age group, it was used as the leading diagnosis of hypoxic-ischemic damage to the central nervous system, and in children of the second age group, minimal cerebral dysfunction (MMD). Thus, with such a polymorphism of clinical manifestations, it is not surprising that it is difficult to assess the child's condition, and hence the impossibility of selecting an effective pathogenetic therapy. hyperdynamic syndrome in 87% and vegetative-visceral syndrome in 67% of the examined, all children had speech impairment. At the same time, in children of the first age group, it was used as the leading diagnosis of hypoxic-ischemic damage to the central nervous system, and in children of the second age group, minimal cerebral dysfunction (MMD). Thus, with such a polymorphism of clinical manifestations, it is not surprising that it is difficult to assess the child's condition, and hence the impossibility of selecting an effective pathogenetic therapy.

Speech therapy revealed the following signs: spasticity of the muscles of the tongue, limited mobility of the tongue, gothic palate and amimic facial muscles in all children, a wide tip of the tongue in 67%,

deviation of the tongue in 15%, dystonia of the soft palate and its deviation 23%, limitation of the mobility of the soft palate in 62% of cases.

An osteopathic examination revealed signs of a catastrophic trauma in all children, which manifested themselves as follows: displacement of the cervical vertebrae at the C2 – C3 level in 43% of cases, C3 – C4 in 57%, C2-C3-C4 in 28%. Changes in the position of the hyoid bone - in the form of rotation and lateral tilt towards the displaced vertebra in 81% of children, rotation and lateral tilt in the opposite direction from the displaced vertebra in 19%. All children had a gothic palate and displacement at the level of the lower jaw. In the majority of children, a fixed position of the vomer between the palatine processes of the upper jaw was revealed (92%). All examined patients had a dysfunction of the craniosacral mechanism (CSM), which was manifested by a decrease in rhythm, amplitude and strength, compression at the level of sphenobasilar synchondrosis (SBS) and craniovertebral and sacroiliac junction. Taking into account the presence of displacements at the level of the occipital bone in all studied children, adaptive disorders of the atlas position were also revealed. In addition, an increase in the tone of the suprahyoid muscles and muscles of the back of the neck was noted (100%). The overwhelming majority of children had sympathicotonia.

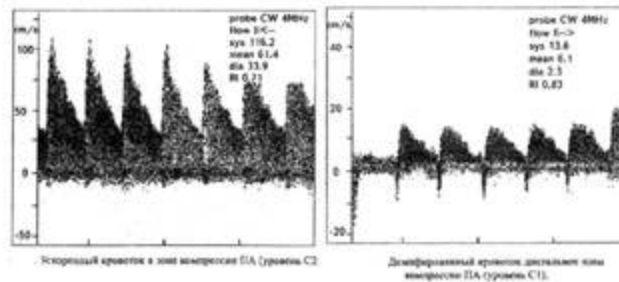
According to neurosonography, in 91% of children in the first group and 95% of children in the second group, an enlargement of the interhemispheric gap was revealed, 53% and 57% of children, respectively, had an increase in the third ventricle, and in 71% and 75% of those examined, the sizes of the lateral ventricles were increased. During ultrasound examination of the cervical spine, the width of the spinal canal was reduced in 65% of children of the first group, and in 68% of children of the second age group (Fig. 1). Rotational displacements of the vertebrae were detected in 63 and 65%, respectively. Displacements without rotation - in 37 and 35% of cases.



Fig 1. Ultrasound of the cervical spine. Narrowing of the spinal canal caused by displacement of C3 and C4 vertebrae

Thus, these data fully confirmed the revealed displacements in osteopathic diagnosis. Doppler sonography with duplex scanning revealed signs of impaired venous outflow along the vertebral veins in all children, asymmetry of the LBF along the vertebral arteries (PA)

more than 20% in 63 and 77% of cases, respectively. Asymmetry of the PA diameter (> 20%) in 57 and 70% of children. Analysis of these data shows the following features: the asymmetry of blood flow through the vertebral arteries is manifested in a decrease in blood flow from the side of the rotation of the vertebra and its strengthening from the opposite side, the degree of asymmetry of blood flow through the vertebral arteries increases with rotational tests, while the blood flow from the side of rotation of the vertebra decreases and, compensatory increases from the side opposite to rotation (Fig. 2).

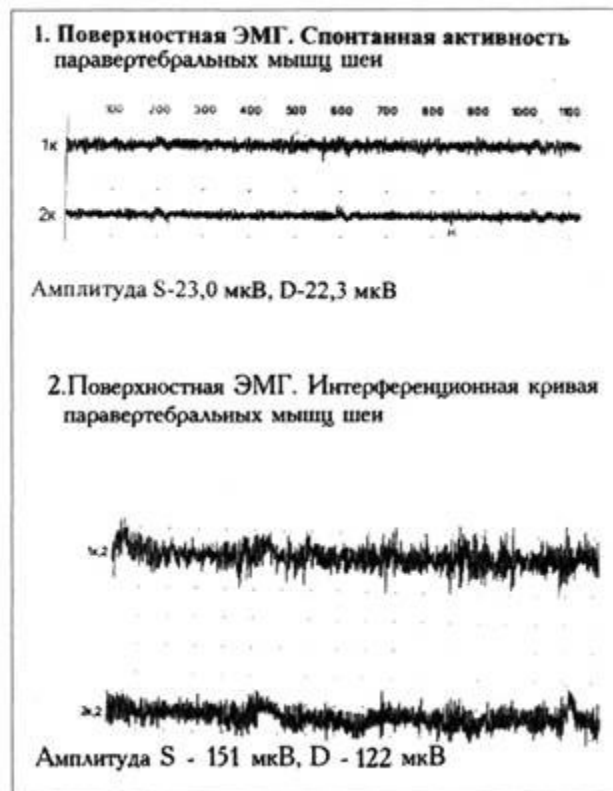


Rice. 2. Changes in the LBFV along the vertebral artery due to displacement vertebrae

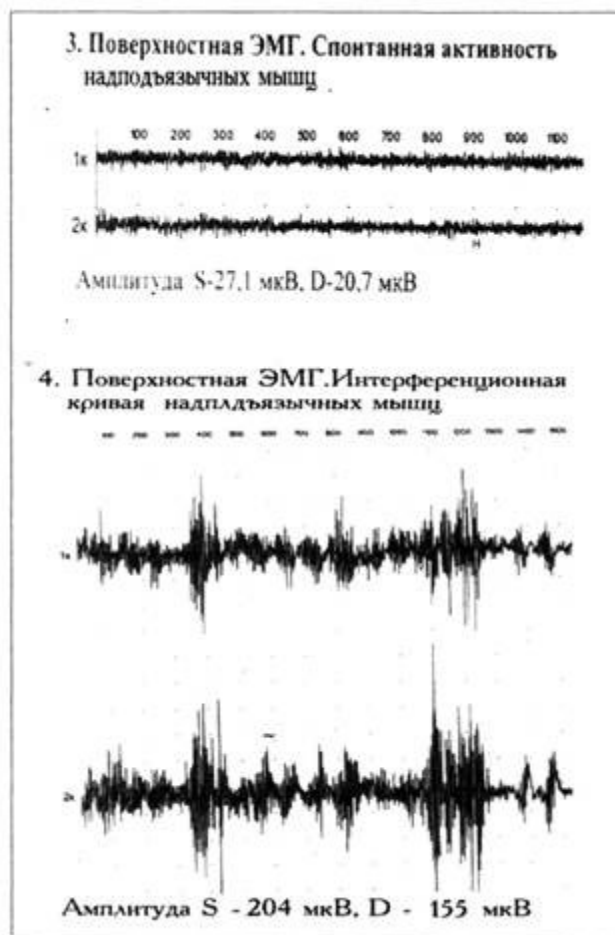
Superficial electroneuromyography showed in all children an increase in tonic activity and its asymmetry at the level of the suprahyoid and posterior cervical muscles. At the same time, muscle tone in both groups was increased from the side of rotation of the cervical vertebra, while carrying out a functional load, an increase in asymmetry occurred (Fig. 3, 4).

According to the results of ultrasound of the hip joints, we can speak of a predominant delay in the timing of ossification of the femoral heads, which was detected in 65% of children of the first age group and 28% of children in the second. In 85% of these children, dysplasia was unilateral.

When monitoring the respiratory and cardiovascular systems, violations were identified in all children, while in most children deviations were in the direction of increasing age indicators. Arterial hypertension was observed in 75 and 73% of cases, respectively, tachycardia - in 73 and 77%, tachypnea - in 72 and 80% of cases. That indicated the prevalence of the tone of the sympathetic nervous system, despite the age-related characteristics of these children. This fully confirmed the data of the osteopathic examination.



Rice. 3. Tonic activity of the paravertebral muscles at rest (1) and under load (2)



Rice. 4. Tonic activity of the suprahyoid muscles at rest (3) and under load (4)

Thus, evaluating the data obtained with different research methods, we obtained a statistically significant relationship between them and the data of osteopathic examination ($P < 0.01$ according to Fisher's criteria and -2). In this case, the osteopathic method makes it possible to assess violations in the presence of clinical, but no pronounced morphological changes, in contrast, for example, to ultrasound of the abdominal cavity.

conclusions

The data obtained during the study led to the following conclusions:

1. Somatic dysfunctions are a common pathology in children. early age, they occur in 87% of cases. At the same time, organic pathology is only 24%.
2. In 29% of children, somatic dysfunctions are secondary to the background organic or hereditary diseases. 71% of children have natally determined factors for the occurrence of somatic dysfunctions.
3. Somatic dysfunctions in young children are manifested

different clinical picture, but the overwhelming number of children have disorders at the level of psychomotor and speech development, as well as at the level of the cardiovascular, urinary, respiratory and digestive systems of the body, which manifests itself in the form of autonomic dysfunctions.

4. Osteopathic diagnostics for somatic dysfunctions is effective, confirmed what by clinical and instrumental research methods.

The osteopathic method allows you to find the causes of clinical manifestations, which means that it becomes possible to choose a reasonable method of treatment.

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