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EARLY REHABILITATION IN CHILDREN WHO UNDERWENT SURGERY FOR CONGENITAL SPINAL HERNIAS

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Abstract

The developed scale is used to assess the results of treatment after corrective operations on the spine and spinal cord and is the basis for carrying out pathogenetically based rehabilitation measures. The technique is based on a scoring of general clinical, neurological, radiological, and functional indicators, which objectively reflects the severity of neurological deficits, dysfunction of the osteoarticular system and pelvic organs.

Keywords

surgery, spinal cord, spine, long-term results, assessment technique, scoring system.

INTRODUCTION

Purpose of the study: to assess the long-term postoperative period according to the scoring system after operations on the spine and spinal cord in children.

A congenital malformation of the spine and spinal cord manifests itself with hidden or obvious clinical manifestations, with concomitant dysfunctions of the musculoskeletal system, pelvic organs and other systems. In the long-term period after surgery for spinal dysraphism in most children, it is not always possible to achieve regression of neurological symptoms and restoration of motor, pelvic, sensory, trophic and vegetative-vascular disorders [1, 2, 3].

MATERIALS AND METHODS

To correctly interpret the outcomes of treatment for congenital malformations of the spine and spinal cord in children, it seemed necessary to us to develop a unified criterion for assessing postoperative results. It is very difficult to group long-term results of treatment in patients who underwent various surgical methods. Analysis of changes in the neurological status of the child after surgery should be carried out in homogeneous groups, taking into account the type of operation, age, diagnosis, as well as the preoperative condition of the patient.

RESULTS AND DISCUSSION

For each of the signs, depending on the degree of change in a particular indicator, a certain score is assigned [1]. These figures are taken for the convenience of calculating the final results and for a clearer and more objective differentiation of the degree of expression of a particular indicator (Table 1).

Table 1 - Methodology for scoring long-term results of treatment in children after surgery on the spine and spinal cord

Symptoms and signs	**Number of points**

I. General clinical changes 1. Pain in the surgical area: a) no pain b) pain during physical activity c) constant pain	 10 5 1
2. Dysfunction, foot axis and lameness a) no violations, no complaints b) barely noticeable paretic foot, lameness after moderate physical activity c) noticeable paretic foot, constant lameness, waddling gait	 10 5 1
3. Curvature of the spinal column and poor posture: a) absent, normal type of posture b) scoliosis of the 1st degree, barely noticeable obliquity of the pelvis c) scoliosis of the 2nd-3rd degree, pathological type of posture	 10 5 1
4. Range of motion in the joints, muscle strength and tone in the limbs: a) full range of motion, normal muscle tone b) decreased range of motion in joints, slight decrease in muscle strength and contractility c) rigidity or contracture of the joints with a significant decrease in muscle tone due to atrophy.	 10 5 1
II. Neurological status 5. Motor and sensory disorders: a) no disorders b) hypoesthesia in the dermatomes of one section of the spinal cord and atrophy in the presence of mild weakness in limbs c) hypoesthesia or anesthesia in the dermatomes of two or more parts of the spinal cord, severe atrophies and severe weakness in the limbs	 10 5 1
6. Pelvic disorders: a) no b) minor urinary and fecal incontinence c) permanent urinary and fecal incontinence	 10 5 1
III. X-ray changes (MRI, CT, ultrasound, PET) a) complete anatomical restoration of the structures of the spine and spinal cord b) reduction of the subdural space in the spinal canal c) fixed spinal cord	 10 5 1

The final post-treatment score is generally based on the total score divided by the number of features. The resulting value is also indicated by points and objectively reflects the general condition of the patient at the time of the examination.

Pain due to malformations of the spine and spinal cord is the most significant characteristic of the patient's condition, but it is considered a subjective sign and was assessed by us using a visual analogue scale [2].

Depending on the results of clinical and functional research methods, 3 groups of outcomes were identified:

With a total score of 5 to 10 (group I), the treatment outcome is considered good, from 3.0 to 4.9 (group II) - satisfactory, from 1.0 to 2.9 points (group III) - unsatisfactory.

Group I (5-10 points) – complete anatomical and functional well-being: no complaints of pain in the postoperative area; dysfunctions and axis of the foot, no lameness; There is no curvature of the spinal column or poor posture; range of motion in the joints, muscle tone in the limbs and muscle strength are normal; there are no motor or sensory disorders; no pelvic disorders; complete anatomical restoration of the structures of the spine and spinal cord using X-ray studies (MRI, CT, ultrasound, PET).

Group II (3.0-4.9 points) – deviation from the norm to varying degrees: complaints of pain during physical activity and barely noticeable paretic foot, lameness after moderate physical activity, first degree scoliosis, pelvic obliquity, decreased range of motion in the joints, a slight decrease in muscle contractility, strength and range of motion in the joints, hypoesthesia in the dermatomes of one part of the spinal cord and atrophy in the presence of mild weakness in the limbs, slight urinary and fecal incontinence, a decrease in the subdural space in the caudal spine during X-ray studies (MRI , CT, ultrasound, PET).

CONCLUSION

Thus, a new method of scoring long-term treatment results in children after surgery on the spine and spinal cord allows for an effective, quantitative assessment of the severity of functional disorders and is the basis for carrying out pathogenetically based rehabilitation measures.

REFERENCES:

1. Laptev L.A. Neurodysfunction of the pelvic diaphragm in the genesis of disorders of the functions of the urinary organs in children with myelodysplasia. //Author. diss... doc. honey. Sci. – Mosca, -2018.
2. Nikolaev S.N. Reconstructive surgical interventions in the complex treatment of urinary incontinence in children with myelodysplasia // Abstract. diss... doc. honey. Sci. – Mosca, -2016.
3. Yamada S; Won DJ; Siddiqi J; Yamada SM Tethered cord syndrome: review of diagnosis and treatment. Neurol Res 2014 Oct;26(7):719-21
4. Orlov M. Yu. “Lipomeningocele in children (clinic, diagnosis, surgical treatment)” in Ukrainian // Abstract. diss... cand. honey. Sci. – Kyiv, -2011.