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NEUROPHYSIOLOGICAL CHARACTERISTICS OF THE CONDITION OF PATIENTS WITH IDIOPATHIC SCOLIOSIS IN THE EARLY POSTOPERATIVE PERIOD

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Abstract: In this article, a retrospective analysis of complications in the early postoperative period was conducted in 57 patients with idiopathic infantile and juvenile breast scoliosis. During the surgical treatment of scoliosis, a variety of pathological syndromes of damage to the nervous system can occur. As can be seen from the study, in patients who underwent anterior mobilization and anterolateral epiphysiodesis of the thoracic spine as a separate stage of surgical treatment, neurological disorders were more pronounced and were observed in a larger number of patients than with combined surgical tactics.

Keywords: idiopathic scoliosis, neurological complications.

Introduction

One of the modern ways to treat scoliosis is to surgically correct this spinal cord. When carrying out these operations, there is a high risk of intra- and postoperative complications. The

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question of the need for simultaneous middle and posterior surgical interventions or for these interventions in two separate stages also remains controversial (1, 2 , 3).

Attempts to maximally correct its deformity during surgical treatment of scoliosis often result in various neurological complications that occur in 0.6 to 25.4% of cases, according to various authors (4).

Material and methods: During the study, a retrospective analysis of complications in the early postoperative period in 57 patients with idiopathic infantile and juvenile thoracic scoliosis was carried out in the Department of Pediatric and Adolescent Vertebrology of the Research Institute of Traumatology and Orthopedics of the Ministry of Health of the Republic of Uzbekistan. According to the indications and in accordance with the developed technique, all patients underwent anterior curvature mobilization and anterolateral epiphysiodesis on the convex side of the thoracic spine deformity.

Postoperative treatment of patients was standard and consisted of assessment of cardiovascular and respiratory system function, clinical blood test parameters, and coagulogram.

The patients were divided into 2 groups. The first group consisted of 37 patients, of whom 29 patients (45%) underwent anterior mobilization and 8 patients (13%) underwent anterolateral epiphysiodesis of the thoracic spine as a separate stage of surgical treatment. The second group included 27 patients who underwent surgery on the anterior spine together with correction of the deformity with a polysegmental construction and posterior fusion on the same day. Anterior curvature mobilization was performed in 6 patients (9%), anterolateral epiphysiodesis - in 21 patients (33%).

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Complications such as pain syndrome, paramidal and sensory insufficiency were subject to analysis. Along with clinical and neurological examination, the intensity of pain syndrome was determined in patients on a 10-point visual analogue scale of pain (0 points - no pain, 10 points - maximum pain).

All patients in both groups experienced at least one of the above complications. At the same time, two or more complications occurred in 74% of patients in the first group and in 68% of patients in the second group. The most common complication in the first group was pain in the back and along the intercostal nerves. This complication occurred in 31 patients in group 1 (76%), and in 15 patients in group 2 (56%, $p < 0.05$). The average pain score on the VAS scale was 6.3 ± 1.8 points in group 1, while in group 2 it was significantly lower - 4.8 ± 1.7 points.

Sensitivity disorders in group 1 were detected in 55% of patients, in group 2 - in 26%. Sensitivity changes were in the nature of hyperesthesia, hypalgesia, sometimes hyperesthesia is replaced by hypesthesia. Most often, sensory disturbances began in the form of transient paresthesia.

Reduced reflexes were less common than changes in the sensitive area. In group 1, only 20.3% of patients showed a decrease in abdominal reflexes, 15.5% of patients showed a decrease in the knee reflex, and in 9.6% of patients, a decrease in the biceps reflex and Achilles reflex. In the second group, these indicators were 10.4%, 5.8% and 2.9%, respectively.

In the study of hemodynamic parameters, significant circulatory disorders were mainly determined in the posterior tibial arteries and arteries of the dorsum of the foot with the greatest degree of deviation from normal values.

Propensity for vasospastic disease (74% of patients in group 1 and 45% of patients in group 2) was found to be predominant on the side of the pain syndrome, compared with the mean values of Doppler studies of the patients examined.

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Conclusion

Thus, during the surgical treatment of scoliosis, various pathological syndromes of damage to the nervous system can occur. As can be seen from the study, in patients who underwent anterior mobilization and anterolateral epiphysiodesis of the thoracic spine as a separate stage of surgical treatment, neurological disorders were more pronounced and were observed in a larger number of patients than with combined surgical tactics.

The data obtained regarding complications that occur after staged and combined surgical interventions in the postoperative period will minimize the risk of their occurrence.

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