FORMATION OF THE HIP JOINT AFTER FUNCTIONAL TREATMENT OF CONGENITAL HIP DISCHARGE IN CHILDREN

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ANNOTATION

In order to predict the formation of hip joints after bloodless treatment of congenital dislocation of the hip, we studied the X-ray data of 102 hip joints in 51 children. The observation period is from 3 to 4 years. The results of the study showed favorable development of hip joints in 70.6% of children, with delayed formation of hip joints in 17.6% of children, unfavorable formation of hip joints in 11.8% of patients. With the growth of children after 2 years, the deterioration of the acetabular angle and the angle of pathological antetorsion is the main factor in the unfavorable formation of the hip joint after functional treatment.

Key words: children, congenital hip dislocation, functional treatment, formation.

I. THE URGENCY OF THE PROBLEM.

The study of the results of conservative treatment of congenital dislocation and subluxation of the hip shows that even an early start of treatment does not always develop a normal hip joint [2].

One of the most important indicators characterizing the effectiveness of any method of treating congenital hip dislocation is before its development (formation) after the elimination of the dislocation.

D. Tonnis (1950) wrote that the most important problem in the treatment of congenital dislocation of the hip is to influence the pre-development of the hip joint after elimination of the dislocation [3]. Correct formation depends on several factors: the potential of the joint to the development of recovery as a result of the treatment of the contact of the head and the cavity, the preservation of the function of the hip joint during treatment and rehabilitation, the general condition and reactivity of the child [1].

Objective: to explore it the hip joint development after the functional treatment and to identify the reasons s abnormal hip development.

II. MATERIAL AND RESEARCH METHODS.

The basis of the study was initiated the formation of the joint-hip pelvis in 51 children treated at the 3-5 kneading -screw age functional methods.

The study was carried out in a consultative polyclinic on the basis of the Samarkand branch of the Republican Specialized Scientific and Practical Medical Center of Traumatology and Orthopedics.

The environments of the surveyed children were 35 girls (68.6%), boys - 16 (31.4%).

The study of X-ray in patients with congenital hip subluxation and dislocation performed after the functional treatment and observation of the dynamics of change in the individual radiological condition of the hip joint in different age periods, provide insight on used features of its formation.

X-ray measurements were performed using a Ter-Egitazarov-Yukina protractor mesh according to the generally accepted technique.

The dynamics of the formation of the glenoid cavity was determined on the basis of measuring the acetabular angle, the angle of the vertical inclination of the plane of the entrance to the cavity. The development of the
proximal end of the femur was characterized by the magnitude of the cervico-diaphyseal angle and the angle of antetorsion of the femoral neck. The degree of congruence of the articular surfaces of the hip was determined angle Wiberg, vertical angle matching the head coating ratio cavity.

III. RESULTS AND ITS DISCUSSION.

On the basis and the research identified three groups of the hip joints.

1- g group consisted of favorably developing joints, which, according to the roentgen metric indicators in 36 children, by the age of 2 years are close to the indicators of healthy joints. They accounted for 70.6%.

2- d group consisted of joints with delayed development in the dynamics of development of which, after 3 years in 9 children, the approach to a healthy joint was determined. Such joints accounted for 17.6%.

3- d group consisted of joints with unfavorably developing joints. They accounted for 11.8% (6) of patients.

Based on the dynamics of the indicators of the hip joint in 3 groups, we set ourselves the task of identifying those signs with the help of which it is possible to predict the development of the joint in advance for timely surgical interventions.

It is possible to judge the congruence of the articular surfaces only by radiometry of the main indicators of the hip joint.

1. Acetabul is a bright corner. In a favorably developing joint, 9-12 months. - 23° ± 3°, at 2 years old - 20 ± 3°, at 3 years old - 19.8° ± 2° at 4 years old - 17.6°. In joints with delayed formation at 2 years old - 32.5° ± 3°, at 3 years old - 30.5° ± 3°, at 4 years old - 22.5°. In unfavorably developing joints, this angle at 2 years old and at 4 years old is 46° ± 3°.

2. The congruence of the articular surfaces is determined by the value of the cervico-diaphyseal angle (SDA) and the angle of antetorsion of the femoral neck (AT). With a favorable development of the hip joint, the SDA changes insignificantly: at 6-12 months. - 139° ± 3°, at 2 years old - 136° ± 3° and at 4 years old - 136° ± 3°.

In joints with delayed formation at 6-12 months. - 144° ± 2°, at 2 years old - 141°, 5° ± 2°, at 4 years old - 139° ± 3°.

In joints with unfavorable development, SDA at 2 years old is 15° ± 3°, at 3 years old 155° ± 3°, at 4 years old 156° ± 3°.

3. The angle of antetorsion is normal in children of all ages, it does not exceed 20° ± 5°.

In joints with favorable development of this angle in 2 years equal ene 32° ± 5°, 3 years - 30° ± 3°, 4 years - 27° ± 3°.

In joints with a delayed angle forming antetorsiya 2 years equal a 39° ± 5°, in 3-4 years - 40° ± 3°. In joints with unfavorable development, antetorsion is equal at 2 years old 64° ± 3°, at 3 years old 66° ± 3°, at 4 years old 65° ± 3°.

4. The Wiberg angle reflects the degree of coverage of the head with the acetabulum. Its value depends on the degree of ossification of the acetabular roof and its depth, on the degree of displacement of the femoral head. In favorably developing joints at 9-12 months. age it is equal to 25° ± 3°, at 2 years old it is equal to 27° ± 2°, at 3 years old - 29° ± 3°, at 4 years old it is 30° ± 3°. In joints with delayed formation at 9-12 months. At age, this angle is 21° ± 3°, at 2 years old it is equal to 23° ± 3°, at 3 years old 25° ± 3°, at 4 years old 26° ± 3°. In joints with unfavorable development, the Wiberg angle is equal to 9-12 months. - 10° ± 2°, at 2 years old it is equal to - 10° ± 3°, at 4 years old also - 9° ± 3°.

5. The angle of vertical correspondence in favorably developing joints at 9-12 months. age ranges from 83°-85°, at 2 years it is equal to 83° ± 2°, at 4 years old 83.5° ± 2°.

In joints with delayed formation, the angle of vertical correspondence is 9-12 months. age is 72° ± 3°, at 2 years old 72° ± 3°, at 4 years old 74° ± 3°.
In unfavorably developing joints at 9-12 months. age $65^0 \pm 3^0$, at 2 years old $66^0 \pm 2^0$, at 4 years old $63^0 \pm 3^0$.

6. By the coefficient of the coating head depressions $\theta$ depends on the depth introduced Nia head in the acetabulum and reflects joint stability.

In favorably developing joints, this coefficient is at 9-12 months. age is $0.94 \pm 0.03$, at 2 years old $0.93 \pm 0.05$, at 4 years old $0.92 \pm 0.03$.

Example patient G., born on September 30, 2016, developed well. At 7 months. age at the clinic examined and diagnosed: Bilateral congenital dislocation of the hip (Fig. 1. A). The reduction of the femoral head was performed on an outpatient basis after the preparatory stage. She was treated with a (stage) plaster cast according to Sheptun-Ter-Egiazarov. Within 3 months. after removing the plaster cast, Vilensky recommended the splint for 8 months. After immobilization, restorative (physiotherapeutic) treatment was carried out. The girl was followed up for 4 years. On examination on September 2, 2020, he walks well, there is no complaint, movement in the hip joints is free, on the roentgenogram of the hip joints, the ratio of the joint elements is correct, not disturbed (Fig. 1. B).

With delayed formation of joints at 9-12 months. age $0.74 \pm 0.03$, at 2 years old $0.76 \pm 0.03$, at 4 years old $0.77 \pm 0.03$.

In poorly developing joints, with the growth of children, the coverage ratio gradually decreases. At 9-12 months age $0.72 \pm 0.03$, at 2 years old - $0.71 \pm 0.03$, at 4 years old - $0.65 \pm 0.03$.

Thus, an increase in the acetabular angle and antetorsion angle from 2 years more than $38^0 \pm 3^0$;

- an increase in the acetabular angle from 2 years more than $36^0 \pm 3^0$;

- the angle of vertical correspondence from 2 years old is less than $37^0 \pm 3^0$;

- an increase in the cervico-diaphyseal angle from 2 years of age over $14.5^0 \pm 3^0$;

- a decrease in the coefficient of coverage of the head with a depression from 2 years of age less than 0.65 is a sign of an unfavorable development of the hip joint.

Comparative analysis of the development of the components of the hip joint with favorable developing joints after bloodless reduction revealed that an increase in the acetabulum indices precedes an increase in the femoral head and provides congruence of the articular surfaces.

The treatment that was carried out in children of the first (3-6) months of life with good centering, excessive antetorsion undergoes a reverse development to closer to the age norm, and the acetabulum develops well.

In children with delayed formation of hip joints, a satisfactory result was not achieved immediately, but after persistent treatment it returned to normal after a few years.

In children over one year old (13-18 months), it is much more difficult to achieve good centering due to secondary changes (pathological antetorsion, flat depression). With such changes in m and in the joint, satisfactory centering, which was achieved with the Lorenz position, was sometimes disturbed when the legs were brought down.

Hip so the normal development and may depend si be effective from the preparatory stage to reposition and the correct choice of treatment.

IV. CONCLUSIONS

1. Treatment started early as possible and without complications in the course of treatment achieved satisfactory centration of the femoral head will lead to the normal formation of the hip of the joint.

2. Unfavorable development of the hip joint is due not only to "dysplasia" but developing aseptic necrosis of the femoral head and its unsatisfactory centering in the acetabulum.
Therefore, the treatment of a child with a good long-term result in most cases depends on the ability of orthopedists.

![Radiographs of the hip joints of a child aged 6 months A- before treatment. B- after 5 months. B- after 4 years.](image)

LITERATURE.