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STABILIZING SURGICAL INTERVENTIONS IN THE TREATMENT OF DESTRUCTIVE PATHOLOGICAL HIP DISLOCATION AFTER HEMATOGENOUS OSTEOMYELITIS.

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Abstract:

The purpose of the study is to analysis of the outcomes of surgical treatment of children with pathological hip dislocation.

Keywords: osteomyelitis, hip, septic arthritis, treatment.

RELEVANCE. The consequences of osteomyelitis are characterized by extensive scarring of the skin, subcutaneous fat, muscles, impaired blood supply to the affected segment and destructive changes in bone tissue for a considerable period. Acute hematogenous osteomyelitis accounts for 6-12.2% of purulent diseases and affects long tubular bones in 79.1– 88.7% of cases. [5]. The proximal metaepiphysis of the femur is most often affected in patients with this pathology. At the same time, the course of the disease in 35-56% of children is complicated by pathological dislocation of the hip. According to A.A. Akhunzyanova et al. (2006); M.A. Norbekova et al. (2006), from 75% to 100% of children with hematogenous osteomyelitis are admitted to the hospital at a late date, which contributes to the development of orthopedic complications that develop in 22-71.2% of children and in 16.2-53.7% of patients lead to early disability [2,6,7]. Despite the development of various surgical interventions, the results remain disappointing. Treatment of patients with pathological hip dislocation is currently a difficult and not fully solved task for orthopedists. It is generally recognized that surgical intervention is the only radical way to treat children with this pathology. It should ensure the stability of the hip joint in order to improve the statics and gait of the patient, restore anatomical relationships if possible, reduce limb shortening and maintain sufficient mobility. In the surgical treatment of PVB, the primary task is to restore the supporting function of the limb while maintaining mobility in the joint, followed by solving problems to eliminate secondary deformities and equalize the length of the lower limbs [1,8,9].

All methods of surgery used in the treatment of pathological hip dislocations can be grouped as follows:

-use of preserved anatomical formations - reduction of the residual epiphyseal stump or the large trochanter of the femur into the acetabulum.
-restoration of the femoral neck.
-complete restoration of the epiphysis with the help of a bone auto or homotransplant.
- hello and metal plastics.

Despite the wide variety of treatment methods, the prognosis for pathological hip dislocation in most cases remains unfavorable. This is evidenced by a large number of residual deformities and discongruence of the femoral and acetabulum heads, joint instability leading to the development of shortening and coxarthrosis [3,4,5].

The purpose of the study. The present work is devoted to the analysis of the outcomes of surgical treatment of children with pathological hip dislocation.

MATERIALS AND METHODS OF RESEARCH.

The work is based on the results of observation and treatment of 174 patients with pathological hip dislocation treated in the Department of hip Pathology of the Republican Center of Pediatric Orthopedics of the Ministry of Health of the Republic of Uzbekistan from 2010 to 2022. Among these patients there were 81 boys and 57 girls aged 3 to 14 years. Clinical, X– ray, magnetic resonance and multispiral tomographic studies were used in the work.

The optimal age for surgical treatment of pathological hip dislocation, according to our data, is 4-5 years of age of the child, since by this time the process of ossification of hip joint structures ends in most patients, when secondary deformities have not yet formed and regeneration processes are well expressed. The planning of surgical intervention in patients was based on the assessment of violations of anatomical relations in the hip joint, its function, violations of the spatial orientation of the bones

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forming the joint, as well as violations of the size, shape and integrity of bones and was carried out taking into account the identified symptom complexes and the patient's age. It should ensure the stability of the hip joint in order to improve the statics and gait of the patient, restore anatomical relations in the joint, reduce the shortening of the limb and maintain sufficient mobility. Contraindications to surgical treatment: the risk of latent infection in patients who have had infectious coxitis 1.5 – 2 years ago and do not have repeated manifestations of the inflammatory process.

Pathological dislocations of the hip are divided by us into distension, i.e. without destruction of articular surfaces and destructive – with destruction of the head, neck of the femur and sometimes the acetabulum. When planning the operation, the nature of the deformation of the proximal end of the femur and the condition of the articular cavity and iliac bone were taken into account, allowing for the formation of the required size of the cavity. All surgical interventions were accompanied by revision of the hip joint. The choice of the surgical intervention method depended on the patient's age, the extent of the destruction of the head, the neck of the hip of the acetabulum, the degree of hip displacement. In case of destructive hip dislocation, differentiated operational tactics were used depending on the severity of destruction of the proximal femur and acetabulum. We performed the following complex reconstructive and reconstructive operations:

- open reduction of the stump of the head or neck of the femur with intervertebral detorsion, shortening, varicose osteotomy in 64 children,
- open reduction of the stump of the head or neck of the femur with intervertebral detorsion, shortening, varizing osteotomy with acetabulum plastic surgery according to Pemberton, Lance, rotational pelvic osteotomy according to Salter in 34 children,
- open reduction of the stump of the head and neck with elongation of the latter and

transposition of the hypertrophied large trochanter with gluteal musculature in the caudal direction with screw fixation and additionally catgut sutures in 29 children.

The purpose of such operations is to create stability in the hip joint, eliminate the vicious position of the limb and the most severe of the symptoms of dislocation – the Trendelenburg symptom, to reduce the shortening of the limb and, if possible, increase the volume of movements in the joint.

Results and their discussion. The results of treatment were evaluated in accordance with the achievement of anatomical and functional results. The result of the operations was better in 34 children, for whom open dislocation reduction was supplemented with plastic surgery of the roof of the acetabulum. Operations of open reduction of the femoral neck head and stump were reduced to the opening of the hip joint, revision of the proximal end of the femur and the cavity and mandatory excision of scar tissue. After the medialization of the joint, the movement of fragments of the iliac bone, the preserved part of the neck and head of the femur was immersed under the newly formed roof of the acetabulum. With the growth of children, lateralization of the femur gradually increased, which contributed to the restoration of the function of the middle and small gluteal muscles. Movement in the joint was achieved within the normal range of 80o, the discharge remained significantly limited, but we did not note any leading contractures in the long term. In this group of patients, a good result in the long– term period was achieved in 14 children, satisfactory in 19. Only in one case, after open hip reduction, postoperative wound suppuration occurred, which did not affect the outcome of treatment. Thus, the experience of surgical treatment of patients with pathological hip dislocations has shown that the most favorable outcomes are achieved with the use of open reduction of the stump of the head or neck of the femur with intervertebral detorsion, shortening, varifying osteotomy with acetabulum plastic surgery according to Pemberton, Lance, rotational pelvic osteotomy according to Salter. The widespread use of these surgical interventions can significantly improve the supporting and dynamic function of the affected limb.

Conclusions. After hematogenous osteomyelitis of the proximal end of the femur, destruction of the femoral head and neck is often observed, up to their complete destruction. The optimal age for surgical treatment of pathological hip dislocation, according to our data, is 4-5 years of age of the child, because by this time the process of ossification of hip joint structures ends in most patients, and early surgical intervention often causes severe secondary deformities, up to their complete destruction. Indications for a particular type of intra-articular surgery, according to our data, should be set strictly individually for each patient, depending on the age of the patient, the type and degree of deformation of the elements of the hip joint and the magnitude of shortening of the lower limb.

Our observations indicate that reconstructive and reconstructive operations in most patients eliminate flexion-adductor and external-rotational contracture,

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ensure the stability of the hip joint and thereby improve the gait and statics of the patient, reduce the distortion of the pelvis and eliminate the symptom of Trendelenburg. Surgical treatment of children with destructive pathological hip dislocations provides for the stabilization of the hip joint at the first stage and the restoration of the length of the lower limb at the second stage. Restoration of the volume of movements in the hip joint depends on the degree of damage to the head and neck of the femur.

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