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Improvement of Endoprosthetics of Hip Bone Praximal Part Deformations in Coxarthrosis

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Abstract: We observed 269 patients who underwent complex hip arthroplasty: patients with dysplastic coxarthrosis, after corrective osteotomies, with deformities of the proximal femur, with deformities and defects of the acetabulum, and with limb shortening by more than 4 cm. Features of surgical interventions are described. ,techniques in various situations, immediate and long-term results of operations with complex endoprosthetics.

Keywords: hip joint, complex arthroplasty, dysplasia, deformities of the - proximal femur.

Hip arthroplasty is a complex and high-tech operation. Topographic and anatomical features of the operation area are specific in each specific case; large neurovascular formations pass through here [1, 2, 7, 11, 12]. Most authors refer to hip arthroplasty in complex cases (non-standard, special, atypical, etc.) as arthroplasty in dysplastic coxarthrosis, after surgery on the hip joint in history, with deformities of the proximal femur, defects in the walls of the acetabulum, bilateral arthroplasty, revision arthroplasty and others [3–5, 11, 13, 14]. In such cases, preoperative planning is extremely difficult, and in some cases impossible , and the risk of intraoperative complications and incorrect orientation of implants increases significantly [2, 6, 8–10].

In the treatment of early stage coxarthrosis, various types of reconstructive surgical interventions on the proximal femur are used , which can significantly slow down the progression of the pathological process [2, 3, 8, 10]. However, in the terminal stages of the disease, when the question of the need for hip arthroplasty arises, technical difficulties arise in the installation of the femoral component. The altered anatomy of the femur due to previously performed osteotomies makes it difficult to orientate when processing the femoral canal and install the endoprosthesis stem [11]. However , when the shape of the canal allows arthroplasty without deformity correction, the femoral component is often implanted in a position corresponding to the shape of the canal [4, 5]. If the deformity of the femur in the frontal and sagittal planes excludes the possibility of correct and stable implantation of the component, a corrective osteotomy is performed. In these cases, it is possible to perform corrective osteotomy as a separate stage [4, 6, 7] preceding endoprosthesis replacement, or together with the installation of the endoprosthesis stem [12].

Shortening osteotomy is often performed in patients with high hip dislocation to restore the true center of rotation, correct anteversion of the proximal femur, adjust the stem of the endoprosthesis to the shape of the canal, reduce excessive pressure (compressive forces) on the femoral and acetabular components, and also to prevent development neurological complications [17]. However, along with dislocation, these patients often have hip deformity after previous surgery, and a shortening

osteotomy is performed to correct the biomechanical axis. Two main methods of shortening osteotomies have been described: osteotomy of the proximal femur with transposition of the greater trochanter distally [1, 16] and subtrochanteric osteotomy of the femur [14]. When using the first method, it is often necessary to resect the metaphyseal region, which calls into question the possibility of future revision interventions; moreover, there is a high risk of formation of a false joint of the transposed trochanter. Rotational stability in the osteotomy zone depends on the congruence of the femoral fragments and the properties of the endoprosthesis stem [9]. If, after the installation of the femoral component of the endoprosthesis, the phenomena of instability remain, then the use of various methods of external osteosynthesis is indicated [15].

From these positions, the following clinical observation is of particular interest. Patient T., aged 54, was admitted to the Federal State Budgetary Institution "RSC" WTO "n.a. acad. G. A. Ilizarov "with a diagnosis of bilateral dysplasia and - Chesky coxarthorosis III stage, pain syndrome. Combined - contracture. Shortening of the right lower limb by 2 cm. Condition after surgical treatment: supporting osteotomy of the left and right femur. Valgus-rotational deformity of the upper third of the left femur.

On admission, the patient complained of pain in the hip joints, aggravated by exercise, limited range of motion in the joints, and lameness when walking. The pain syndrome was more pronounced on the left.

A separate group is made up of patients who have deformation of the femur along with deformed osteoarthrosis, the consequences of injuries and their treatment, or those who were re-transplanted by means of an earlier surgical operation aimed at restoring and preserving the normal anatomic connection in the joint (Volokitina E.A. s soavt., 2006, 2013). Joint replacement in this group of patients is more difficult, and the results of surgery are worse compared to patients who underwent the first standard endoprosthesis (Tikhilov R.M., 2008). Even among patients in this group who underwent complex endoprosthetics, patients with femoral deformity at the lower level of the small vertebra stand out. When it is not possible to install standard hip components by the usual method, surgeons are forced to use different joint-correcting osteotomies or special hip components at the same time (Tikhilov R.M., 2008; Delbarre J.C. et al., 2002).

During the more than sixty-year history of endoprosthetics, only a few dozen articles on this topic have been published in the world literature. This is because this problem usually occurs as a result of hip dysplasia, congenital hip fracture, or surgical treatment after osteotomy and failed arthroplasty (Papagelopoulos P.J., 2003). Other mechanisms of deformity formation are nonunion or malunion of the proximal part of the femur, Paget's disease, or fibrous dysplasia of the hip (Namba R.S. et al., 1997). Since more than two decades ago, in developed countries, corrective osteotomies of the femur were replaced by osteotomies of the pelvis in the treatment of dysplasia, endoprosthesis in the presence of hip deformities was considered an exclusive phenomenon, and in the last 10 years, only 5 sources were found in the MedLine database that fully correspond to the problem under consideration (Roche O. et al., 2005; Callaghan J.J. et al., 2006; Clohisy J.C. et al., 2009; Eskelinen A. et al., 2009; Shigematsu M. et al., 2007). Due to the fact that the Ilizarov method is widely used to perform correction operations on patients with previously acetabular dysplasia in the Russian Federation and the CIS countries, there are a significant number of such patients. R.R. According to the data of the RNIITO endoprosthesis register named after Vreden, endoprosthetics in the case of hip bone deformities is 0.9% (Tikhilov R.M. s soavt, 2013).

Endoprosthesis of hip joint against the background of hip bone deformations is performed when the function of the joint is significantly impaired and in order to relieve the patient from pain, restore movement in the joint, create a base movement organ, and ensure the possibility of movement without lameness. This can be achieved only by restoring the equality of the length of the legs, their mechanical axis and muscle tone (Mazurenko A.V., 2010). Young age, changes in the anatomy of the proximal part of the femur, shortening or lengthening of the legs, re-emergence of scars in soft tissues, and the presence of metal structures left over from previous surgery pose great difficulties for the surgeon during primary and revision endoprosthetics (9).

If there is a deformity of the femur during arthroplasty, there will be difficulties in placing the femoral component, which should be placed closer to the anatomical position in order to achieve biomechanical balance of the pelvis. (7.6). If the changes in the anatomy are observed together with the deformations caused by the previous operations, satisfactory results can be achieved only with the help of various methods of restoration of the leg axis with the help of osteotomy (Eskelinen A. et al., 2009). However, it should be noted that the risk of complications in such cases is higher than in standard primary hip arthroplasty. According to different authors, the total satisfactory result for reduction of osteotomies is only 80% Tugizov B.E. s soavt., 2013; Becker DA, 1995; Reikeraas O. et al., 1996, Yasgur D.J. et al., 1997; Liu R. et al., 2014; Oinuma K. et al., 2014). Common complications for this type of surgery are malunion or false joint formation, which can lead to fatigue fracture or aseptic loosening of the metal construct (3).

Intervertebral osteotomies, which cause significant deformity of the metaphysis, also significantly complicate endoprosthetics, but only a few studies have reported a high (up to 87%) satisfactory rate of endoprosthetic outcomes after femoral vertebra osteotomies, especially when a two-level osteotomy is required (12).

Nevertheless, some foreign authors consider osteotomy to be an effective surgical tactic for correcting severe degrees of deformity (9), its exact indications have not been fully determined to date (Callaghan J.J., 2006).

Thus, the problem of endoprosthesis of hip joint in patients with hip bone deformity is particularly relevant for our country, but it has not been solved in a number of aspects. At the same time, the most important thing for clinical practice is the lack of a clear and reasonable algorithm for choosing the most suitable option for surgery in patients with this profile, taking into account the different types and degrees of severity of hip bone deformities, as well as other important clinical and radiological factors. The development of such an algorithm will improve the correction of femoral bone deformities, as well as simplify endoprosthesis techniques and minimize the risk of complications, which will ultimately have a positive effect on the results of such interventions. The practical importance of this unsolved problem for Russian orthopedics determined the goals and tasks of our dissertation research.

References

1. Abeltsev V.P. Surgical treatment of dysplastic coxarthrosis . _ — M.: Medicine, 2008. — 218 p .
2. Akhtyamov I.F., Sokolovsky O.A. Surgical treatment of hip dysplasia. — Kazan, 371 p .
3. Total hip arthroplasty with endoprostheses with a combined fixation system / I.F. Akhtyamov , R.Kh. Zaripov , M.A. Khairu l - lov, B.G. Ziatdinov // Endoprosthetics of large joints: materials of Vseros . conf . — M.: CITO, S. 6.
4. Volokitina E.A. Features of arthroplasty for angular deformities of the femur after supporting osteotomy // Endoprosthetics of large joints: materials of Vseros . conf . — M.: CITO, 2009. — S. 21.
5. Zaitseva O.P., Kolotygin D.A., Vishnyakov V.A. Analysis of errors and complications in hip arthroplasty // Endoprosth
6. Isroilovich A. E. et al. The Role And Importance Of GliahNeurotrophical Factors In Early Diagnosis Of Parkinson Disease //Texas Journal of Medical Science. – 2022. – T. 5. – C. 1-6.
7. Abdukodirov E. I. et al. Study of bioelectric activity of the brain in patients with neurosensorius deafness //Oriental Journal of Medicine and Pharmacology. – 2022. – T. 2. – №. 05. – C. 10-19.
8. Isroilovich A. E., Kodirovich K. N., Jumanazarovich M. R. Hereditary Diseases of the Nervous System, Their Prevalence and Epidemiological Status //Central Asian Journal of Medical and Natural Science. – 2022. – T. 3. – №. 6. – C. 127-132.
9. Abdukodirov E. I., Khalimova K. M., Matmurodov R. J. Hereditary-Genealogical Features of Parkinson's Disease and Their Early Detection of the Disease //International Journal of Health

Sciences. – №. I. – C. 4138-4144.etics of large joints: materials of Vseros . conf . — M.: CITO, 2009. — S. 47.

10. Total hip arthroplasty for protrusion defects of the acetabular floor / G.M. Kavalersky, V.Yu. Murylev , Ya.A. R u - kin , D.I. Terentiev // Endoprosthetics of large joints: materials of Vseros . conf . — M.: CITO, 2009. — S. 53.
11. Артыкова М. А., Набиева Н. А. Клинико-анамнестические факторы риска развития симптоматической эпилепсии при детском церебральном параличе //журнал неврологии и нейрохирургических исследований. – 2021. – №. SPECIAL 1.
12. Artikova M. A., Djurayeva D. N. Clinical and anamnestic risk factors for the development of symptomatic epilepsy in infantile cerebral palsy //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 10. – С. 29-34.
13. Артыкова М. А. Клинико-Неврологические Особенности Больных, Перенесших Коронавирусную Инфекцию(Covid-19) //Central asian journal of medical and natural sciences. – 2021. – С. 338-342.
14. Abdurakhmanovna A. M., Abdurakhimovna N. N. Content and distribution of haptoglobin phenotypes in children with cerebral palsy complicated by symptomatic epilepsy. – 2021.
15. Artykova M. A., Nabieva N. A. Radiated semiotics of perfusion brain disorders in epilepsy in children cerebral paralysis. – 2020.
16. Artikova M. A., Nabiyeva N. A. Complicated symptomatic epilepsy, content and distribution of haptoglobin phenotypes in children with cerebral palsy //Turkish Journal of Physiotherapy and Rehabilitation. – Т. 32. – С. 3.
17. Olimova N. I. Analysis of the somatic and reproductive history of women with genital inflammatory diseases due to hiv infection //Актуальныевопросыэкспериментальноймикробиологии: теория. – 2022. – Т. 1. – №. 2. – С. 30.