SCIENCE BOX

*Journal of Advanced Research and Stability*
*Volume: 02 Issue: 12 | Dec - 2022* *ISSN: 2181-2608*
*www.sciencebox.uz*

# TOTAL HIP REPLACEMENT FOR DYSPLASTIC COXARTHROSIS

***Negmatov Jaxonjir Mansurovich***

***Annotation****: To study the long-term results of operations, clinical, biomechanical, radiographic, physiological and statistical studies of the patients ' condition were performed. In 84% of cases, good and satisfactory surgical outcomes were established.*

***Keywords:*** *total endoprosthetics; hip joint; dysplastic coxarthrosis (DC); complications of endoprosthetics.*

When performing total hip replacement with its osteoarthritis in the early and long-term periods after surgery, aseptic instability of the endoprosthesis legoccurs. This type of complication accounts for 10-15 % of all surgical treatment failures caused by: osteoporosis, incorrect implantation technique, incorrect orientation of the endoprosthesis components, excessive patient weight, violation of postoperative rehabilitation conditions, use of implants that do not meet international standards, incorrect selection of endoprosthesis components. The study is primarily aimed at preventing periprosthetic femoral fractures and loosening of the endoprosthesis knives in the immediate postoperative period. The correct spatial position of the femoral component of the endoprosthesis in the medullary canal, as well as a certain contact between the implant and bone tissue, contribute to an even distribution of the load, good secondary fixation of the component, and an increase in the service life of the endoprosthesis [1]. At this stage of development эндопротезированияof hip replacement in the dysplastic variant of coxarthrosis, there are quite a lot of problems that require an individual approach and a specific solution from the surgeon. Most often, it is necessary to implant the endoprosthesis leg in an excessively narrow femoral canal, which is initially anatomically altered, which requires both certain surgical skills and the use of special structures with careful preliminary planning of the upcoming intervention [2]. Consequently, the problem of performing rational total эндопротезированияhip replacement for dysplastic coxarthrosis in adults remains one of the most relevant in modern traumatology and orthopedics [3]. In the development of a complex of pathological changes in the dysplastic hip joint and paraarticular tissues, the time factor plays an important role, since the patient moves from birth with existing disorders of the joint anatomy, and thereforehas an incorrect gait stereotype, which strengthens over the years. Surgeons ' attempts to rely on the generally accepted and described biomechanical parameters of the support and walking function do not always lead to a positive result of the operation and do not make it possible to clearly determine the individuality of each surgical intervention [4-5]. Therefore, the long-term results of total endoprosthetics in patients with dysplastic coxarthrosis are significantly worse than in patients with a different genesis of joint damage [6-7]. The aim of the study was to improve the results of total endoprosthetics hip joint surgery in patients with dysplastic coxarthrosis (DC). 50 patients with dysplastic coxarthrosis aged 40 to 60 years (mean age was 48.5± 8.5 years) underwent total hip replacement at the Saratov Research Institute of Traumatology and Orthopedic. All patients underwent standard radiography. Among the operated patients there were 36 (72 %) women and 14 (28 %) men, the ratio of 3:1.28 (56 %) paediatric patients (5-10 years old) were operated on: 27 (9 %) patients underwent intertrochanteric femoral osteotomy and one (3%) underwent Chiari pelvic osteotomy. 33 (66 %) patients had grade 1 subluxation, 7 (14 %) patients had grade 2 subluxation, 4 (8 %) patients had

grade 3 subluxation, and 6 (12 %) patients had complete head dislocation. All patients were found to have Wiberg grade 3 degenerative-dystrophic process in the joint [8]. Total endoprosthetics of the left hip joint were performed in 32 patients, and the following structures were used in 18 patients:. All of the above structures have a different design of the acetabular and femoral components, which makes them applicable in various clinical cases of dysplastic coxarthrosis, which made it possible to clarify in the study of long-term treatment results which leg shape is optimal for each stage of dysplastic coxarthrosis. Clinical, radiographic, physiological, biomechanical, and statistical methods were used to study long-term results. During the clinical examination, the patient's complaints, the amount of movement in the prosthetic joint, shortening of the operated limb, and the need to use additional support when walking were studied. During X-ray examination, the condition and position of the femoral and acetabular components of the endoprosthesis, the degree of wear of the friction pair, and the condition of the bone bed were evaluated. The examination was performed in two planes, sagittal and frontal, while in the frontal planeэндопротеза, computed tomography was additionally used to clarify the stability of the endoprosthesis leg. Biomechanical studies have specified the degree of support and mobility of a patient with dysplastic coxarthrosis before and after surgery. All the obtained data were processed statistically, and differences at $p < 0.05$ were considered significant. Preoperative planning of total hip replacement in patients with dysplastic coxarthrosis Using radiographs, we analyzed the shape of the medullary canal of the femur in various degrees of dysplasia. So, in patients with hip dysplasia proper, the shape of the bone marrow canal was neutral conical or with a cone angle of 1°. In cases of subluxation in the hip joint of the 1st and 2nd degrees, the angle of inclination was from 3 to 5°, while in 6 cases the angle of inclination of the cone was 1°. With a complete dislocation in the hip joint, the angle of inclination of the cone was more than 7°. Thus, when selecting the shape and design of the leg, it is necessary to carefully consider the parameters described above, so that, first, when processing the proximal femur with rasps, the minimum required amount of bone tissue is removed, and secondly, the strength of the leg fixation in its distal part does not decrease due to the discrepancy between the volume of the bone marrow canal and the volume of the endoprosthesis leg. Radiography in the lateral projection determined the angle of bending of the femur in the frontal plane, and if it turned out to be more than 7°, in order to prevent perforation of the femur with a rasp, a design with a curved or shortened leg was ordered. In the course of the study, we noted 2 (4 %) similar cases in patients with complete dislocation of the femoral head.

To study the internal shape and walls of the proximal femoral medullary canal in the sagittal plane, computed tomography was additionally performed in 32 (64 %) cases. It was found that with stage 2 dysplasia and complete dislocation of the femoral head, the shape of the canal is peculiar – it narrows in the medial direction and expands laterally. Therefore, in these forms of dysplastic coxarthrosis, it is advisable to use «a tricline - type endoprosthesis legwith a cone angle selected in a straight projection, which will allow achieving maximum strength of its fixation in the femoral medullary canal throughout its implantation and minimal removal of unchanged bone tissue. To obtain objective data on the results of surgical treatment of patients using the proposed scheme of preoperative planning, we performed a biomechanical examination of 26 patients before surgical treatment and 18 patients 3 years after surgery. The examination showed a positive dynamics of the function of support capacity of the operated limb and the function of movement. The data obtained proved that the full recovery of indicators to normal did not occur, and the more severe the stage of dysplastic coxarthrosis. (given the presence of previous surgical interventions), the worse the result of the surgical intervention. All patients had pain in the affected joints, severe restriction of movement, severe combined contracture of mixed

origin, and lameness; 39 (78 %) patients used additional support when walking – 9 (23 %) of them were men and 30 (77 %) were women. The entire group of 50 patients was examined in the laboratory in the postoperative period. According to the performed general blood analysis and examination of the titer of staphylococcal toxoid, in no case was it possible to obtain convincing data on the presence of late deep suppuration, i.e. they were within the physiological norm. Long-term results of treatment were studied by us 3 years after the operation and were studied according to the generally accepted scheme (good, satisfactory, unsatisfactory) using the Harris scale. A good result in 32 (64 %) patients was recognized as the outcome of the operation, when the patient got rid of pain in the operated joint, the function of the hip joint reached 80-90% of the standard values of the amplitude of movements, the limb became supportable. A satisfactory result was observed in 10 (20 %) patients – at the same time, after the treatment, patients complained of moderate pain in the operated joint during walking, the joint function was somewhat limited (the range of motion was restored by 50-70% of the standard values), patients used additional support when walking. An unsatisfactory result of treatment was observed in 8 (16 %) patients, when the patient experienced constant pain while walking, the function in the operated joint did not recover; the patient's condition did not improve or even worsened.

In cases where both hip joints were affected, and the endoprosthesis was performed on one side, the use of additional support when walking did not affect the assessment of the results of the operation. Preliminary assessment of the results of total endoprosthetics was carried out for a period of 6 to 8 months, during which time the patient fully loaded the operated limb. It should be noted that the ability to support the limb in all patients was almost completely restored. X-ray images show the following picture: the position of the endoprosthesis mostly remains the original one; the bone resorption line along the contour of the structure in 13 (26 %) cases exceeds 2 mm. The presence of paraarticular ossifications was detected in 8 (16 %) patients, but they did not affect the function of the operated joint. During total endoprosthetics for dysplastic coxarthrosis, the following complications were revealed − - deep vein thrombophlebitis of the operated limb was found in 5 (10 %) patients. Treatment led to the relief of this complication − - emptying of the postoperative hematoma was observed in 8 (16 %) patients. Improvement of the wound drainage technique throughout and through all layers made it possible to avoid this complication − - in one case (2 %) in the postoperative period in DC patients with complete dislocation of the femoral head, dislocation of the acetabular prosthesis was noted. They were operated on using a strengthening ring, the outcome of the repeated operation was satisfactory − - loosening of the leg was detected in 5 (10 %) patients; the resorption line along the contour of the leg was more than 2 mm. It was the loosening of the structural leg that led to unsatisfactory results of the operation. These patients with stage 1 and 2 subluxation will undergo revision surgery with replacement of the endoprosthesis leg, which in its shape was incorrectly selected before the operation;-in two cases (4%), the head of the endoprosthesis was dislocated due to a gross violation of the orthopedic regime by patientsэндопротеза. Closed reduction of the dislocation of the endoprosthesis head was performed under spinal anesthesia. The long-term result in 3 years is good.

**Literature**

1. Mardanov J. J. The results of surgical treatment of pathological spinal fracture during extradural tumor of spinal cord //Europaische Fachhochschule. – 2014. – №. 4. – С. 21-24.
2. Марданов Ж. Ж., Юлдашев Р. Р. Вертебропластика в хирургическом лечении опухолей позвоночника-оценка результатов лечения //Врач-аспирант. – 2012. – Т. 53. – №. 4. – С. 9-13.

3. Mirzamurodov H. H. New approaches to treatment of patients with coxovertebral syndrome //Asian journal of Pharmaceutical and biological research. – 2021. – Т. 10. – №. 2. – С. 9-19.
4. Mirzamurodov H. H. et al. OPTIMIZATION OF TOTAL HIP ARTHROPLASTY FOR DYSPLASTIC COXARTHROSIS //Новый день в медицине. – 2020. – №. 4. – С. 667-672.
5. Мирзамродов Х. Х. У. УДЛИНЕНИЕ КОНЕЧНОСТЕЙ ПРИ АХОНДРОПЛАЗИИ. СОВРЕМЕННЫЕ ПРЕДСТАВЛЕНИЕ ОБ АХОНДРОПЛАЗИИ //IJTIMOIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI. – 2022. – Т. 2. – №. 7. – С. 21-27.
6. Ахмедов Ш. Ш. и др. ЭНДОПРОТЕЗИРОВАНИЕ ТАЗОБЕДРЕННОГО СУСТАВА ПРИ ДЕГЕНЕРАТИВНО-ДИСТРОФИЧЕСКИХ ЗАБОЛЕВАНИЯХ У ВЗРОСЛЫХ //КОЛОНКА РЕДАКТОРА.–2008. – 2018.
7. Ахмедов Ш. Ш. и др. The peculiarities of prophylaxis of pulmonary thromboembolism after total hip endoprosthesis in dysplastic coxarthrosis //Новый день в медицине. – 2020. – №. 2. – С. 53-55.
8. Khamraev B. U., Sh A. S. Two-stage revision hip replacement patiens with severe acetabulum defect (case report) //Asian journal of Pharmaceutical and biological research. – 2021. – Т. 10. – №. 2.
9. Khamraev B. U., Sh A. S. Our experience of treatment of femor fractures by the method of intramedular locking osteosynthesis //Asian journal of Pharmaceutical and biological research. – 2021. – Т. 10. – №. 2.
10. Акрамов В. и др. Эндопротезирование тазобедренного сустава при переломах шейки бедренной кости //Журнал проблемы биологии и медицины. – 2017. – №. 3 (96). – С. 14-16.
11. Акрамов В. Р. Некоторые проблемы эндопротезирования ранее оперированного тазобедренного сустава.“ //БЮЛЛЕТЕНЬ АССОЦИАЦИИ ВРАЧЕЙ УЗБЕКИСТАНА” Узбекистан Ташкент. – №. 2-2011. – С. 110-113.
12. Зиядуллаев А. Х. ЭКСПЕРИМЕНТАЛЬНАЯ МОДЕЛЬ ОСТЕОАРТРОЗА КОЛЕННОГО СУСТАВА У КРЫС НА ФОНЕ ВНУТРИСУСТАВНОГО ВВЕДЕНИЯ ОБОГАЩЕННОЙ ТРОМБОЦИТАМИ АУТОЛОГИЧНОЙ ПЛАЗМЫ //Scientific progress. – 2022. – Т. 3. – №. 4. – С. 1312-1319.
13. Ziyadullaev A., Nurmonov S., Parmonov A. Study of the catalytic reaction of acetylene with cyanuric acid //Journal of science. Lyon. – 2020. – №. 8-1. – С. 11-14.
14. Nematov D. et al. Molecular dynamics simulations of the DNA radiation damage and conformation behavior on a zirconium dioxide surface //Egyptian Journal of Chemistry. – 2019. – Т. 62. – №. The First International Conference on Molecular Modeling and Spectroscopy 19-22 February, 2019. – С. 149-161.
15. Amrilloevich N. D. et al. INTRA-ARTICULAR PLATELET-RICH PLASMA INJECTIONS INTO THE KNEE IN PATIENTS WITH EARLY OSTEOARTHRITIS //Asian journal of pharmaceutical and biological research. – 2021. – Т. 10. – №. 3.
16. Amrilloevich N. D. et al. APPLICATION OF EXPERIMENTAL SIMULATION WHEN STUDYING THE PATHOGENESIS OF OSTEOARTHROSIS //Asian journal of pharmaceutical and biological research. – 2021. – Т. 10. – №. 3.
17. Ozodovich N. S., Halimovich M. H. Morphological Changes In Bone Tissue In Chronic

Osteomyelitis On The Background Of Application Of Plate Concentrate //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 04. – С. 160-164.

18. Ozodovich N. S. Analysis of morphological changes in the bones after osteomyelitis and features of treatment methods //Asian journal of Pharmaceutical and biological research. – 2021. – Т. 10. – №. 2.
19. Yunusovich Y. S. Traumatic Significance of Determining the Level of Antibiotic Activity in Fatty Biosynamens //Central Asian Journal of Medical and Natural Science. – 2022. – С. 112-117.
20. Юнусович Ю.С. ДИНАМИЧЕСКАЯ РАБОТА МЫШЦ ПРИ ФИЗИЧЕСКОМ НАПРЯЖЕНИИ //Журнал травматологии и инвалидности. – 2022. – Т. 1. – №. 5. – С. 8-14.
21. Gafforov A. U., Saodat A. U. Improvements in surgical treatmet for diaphysealfractures of the lower leg bones //European Journal of Molecular & Clinical Medicine. – 2020. – Т. 7. – №. 3. – С. 3914-3919.
22. Gafforov A. U., Asilova S. U., Teshaev A. A. ANALYSIS OF REPARATIVE AFTER SURGICAL TREATMENT OF DIAPHYSEAL FRACTURES OF THE SHIN BONES //Art of Medicine. International Medical Scientific Journal. – 2021. – Т. 1. – №. 3.
23. Mirzohidovna H. E. OBESITY AS A RISK FACTOR FOR RECURRENT POLYCYSTIC OVARY DISEASE //Asian journal of pharmaceutical and biological research. – 2021. – Т. 10. – №. 3.
24. Халимова Е.М., Каримова Н.Н. Дисгормония и ее коррекция при преждевременной недостаточности яичников //МЕЖДУНАРОДНЫЙ ЖУРНАЛ СИСТЕМ ЗДРАВООХРАНЕНИЯ И МЕДИЦИНСКИХ НАУК. – 2022. – Т. 1. – №. 4. – С. 408-412.
25. Халимова Э. М., Нурханова Н. О., Сулейманова Г. С. СОМАТИЧЕСКИЙ СТАТУС ЖЕНЩИН С МАСТОПАТИЕЙ В ПЕРИОД ПЕРИМЕНОПАУЗЫ //Молодежь, наука, медицина. – 2015. – С. 359-361.
26. Ходжанов И. Ю., Хакимов Ш. К., Касымов Х. А. Выбор способа хирургического лечения воронкообразной деформации грудной клетки у детей на основе критериев эластичности грудино-реберного комплекса //Травматология и ортопедия России. – 2013. – №. 3 (69). – С. 130-135.
27. Ходжанов И. Ю., Хакимов Ш. К., Касымов Х. А. Некоторые ортопедо-косметические аспекты лечения воронкообразной деформации грудной клетки у детей и подростков //Врач-аспирант. – 2012. – Т. 52. – №. 3.4. – С. 531-539.
28. Fayziev X. B. et al. Morphological aspects of the spleen of white mongrel rats after severe traumatic brain injury caused experimentally in the form of a road accident //International Journal of Pharmaceutical Research. – 2021. – Т. 13. – №. 2. – С. 998-1000.
29. Файзиев Х. Б., Тешаев Ш. Ж. Черепно-мозговая травма и иммунитет //Новый день в медицине. – 2020. – №. 2. – С. 577-579.
30. Ilkhomovna K. D. Morphological Features of Tumor in Different Treatment Options for Patients with Locally Advanced Breast Cancer //International Journal of Innovative Analyses and Emerging Technology. – 2021. – Т. 1. – №. 2. – С. 4-5.
31. Khodzhaeva D. I. Changes in the Vertebral Column and Thoracic Spinecells after

Postponement of Mastoectomy //International Journal of Innovative Analyses and Emerging Technology. – 2021. – Т. 1. – №. 4. – С. 109-113.

32. Sanoeva M. et al. Comparative analysis of cognitive function at vascular complications of migraine (diagnosis and clinical approach) //Journal of Critical Reviews. – 2020. – Т. 7. – №. 3. – С. 425-430.
33. Sanoeva M. et al. Peculiarities of clinical and hemodynamic manifestations of migraine strokes //International Journal of Psychosocial Rehabilitation. – 2020. – Т. 24. – №. 2. – С. 350-358.
34. Файзиев Х. Б., Тешаев Ш. Ж. Черепно-мозговая травма и иммунитет //Новый день в медицине. – 2020. – №. 2. – С. 577-579.
35. Fayziev X. B. et al. Morphological aspects of the spleen of white mongrel rats after severe traumatic brain injury caused experimentally in the form of a road accident //International Journal of Pharmaceutical Research. – 2021. – Т. 13. – №. 2. – С. 998-1000.
36. Саъдинова Г. У., Саидвалиев Ф. С. Исботланган тиббиётга асосланган мигреннинг замонавий даволаш усуллари //ЖУРНАЛ НЕВРОЛОГИИ И НЕЙРОХИРУРГИЧЕСКИХ ИССЛЕДОВАНИЙ. – 2020. – Т. 1. – №. 1.
37. Olimova N. I. Analysis of the somatic and reproductive history of women with genital inflammatory diseases due to hiv infection //Актуальные вопросы экспериментальной микробиологии: теория. – 2022. – Т. 1. – №. 2. – С. 30.
38. Худойбердиев Д. К., Тешаева Д. Ш. Бир ойлик оқ каламуш ошқозони топографияси, ошқозон деворининг макро-ва микроскопик тузилиши //Биология ва тиббиёт муаммолари.–Самарқанд. – 2020. – Т. 3. – №. 119. – С. 165-168.
39. Худойбердиев Д. К., Наврузов Р. Р., Тешаева Д. Ш. Оқ каламуш ошқозони морфометрик параметрларининг илк постнатал даврдаги ўзига хос хусусиятлари //Биология ва тиббиёт муаммолари.–Самарқанд. – 2020. – Т. 5. – №. 122. – С. 231-234
40. Ibodulloyevna I. M. ISHLAB CHIQARISH KORXONALARI OQAVA SUVLARINI TOZALASHNING HOZIRGI KUNDAGI HOLATI VA TOZALASHNING ISTIQBOLLARI.(ADABIYOT SHARXI) //BOSHQARUV VA ETIKA QOIDALARI ONLAYN ILMIY JURNALI. – 2022. – Т. 2. – №. 11. – С. 38-44.
41. Navruzov R. R. Characteristics of morphometric parameters of the white rat's stomach in the early postnatal period //New day in medicine. – 2021. – Т. 2. – №. 34/3.
42. Khamroev S. B. Differentiated Therapy of Cognitive Disorders in Schizophrenia Taking into Account the Dynamics of Clinical and Sociological Parameters //INTERNATIONAL JOURNAL OF HEALTH SYSTEMS AND MEDICAL SCIENCES. – 2022. – Т. 1. – №. 5. – С. 127-131.
43. Саидвалиев Ф. С., Оллаберганова Г. У. Допплерографическая характеристика экстракраниальной гемодинамики при острых ишемических инсультах различной этиологии //Врач-аспирант. – 2009. – Т. 35. – №. 8. – С. 620-625.
44. Navruzov R. R. Morphofunctional features of the lymphoid structures of the colon in normal and under the influence of a biostimulator on the background of radiation sickness //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 09. – С. 53-56.
45. Kizi M. S. S. Risk Factors and Morphological Features of Breast Diseases Fibrosis-Cystosis //EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION. – 2022. – Т. 2. – №. 12. – С. 82-85.