

Quality of Life in Patients with Coxarthrosis After Artroplastikes

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Abstract

INTRODUCTION: Functional deficit of the patients in the end stage of coxarthrosis may have influence on the quality of life in these patients. It is known that this disease is often manifested in the severe form in the older age. Little is known on how age correlates with quality of life of these patients in the period of operative management of disease with implantation of the endoprosthesis. The aim of this study is to estimate correlation between the age of patients with total hip arthroplasty because of the coxarthrosis and quality of life in the early period of the follow up after total hip arthroplasty.

PATIENTS AND METHODS: Prospective research includes 50 patients of both sexes (20 male and 30 female), average age 55 years (range from 35 to 75 years) that had indication for total hip arthroplasty because of severe stage of coxarthrosis. Instrument used for assessment of quality of life is modified version of Womac Index. Quality of life assessment was done before the surgery, 2 weeks after the surgery and at the first health check (4 weeks after the surgery), for all patients.

RESULTS: Average value of WOMAC index preoperatively was 51.54 (satisfying), at discharge 22.74 (good), and at the first health check 19.4 (good). Ages of the patients with hip arthroplasty because of coxarthrosis and WOMAC index preoperatively were statistically significantly correlated ($r=0.521361$), but there was no correlation at discharge ($r=0.072351$) from surgical department.

CONCLUSION: Results of our research show that preoperative rehabilitation, accurate total hip arthroplasty and postoperative rehabilitation improve quality of life of patients with total hip arthroplasty. Quality of life of patients with severe stage of coxarthrosis significantly correlates with age, but after implantation of hip endoprosthesis, already in the early postoperative follow up, it does not have significant correlation with patient's age. Change of quality of life of the patient with coxarthrosis after total hip arthroplasty does not correlate with age of these patients.

KEYWORDS: Total hip arthroplasty, quality of life, Womac Index Score.

Introduction

Joint degeneration in general and in particular hip joints, are described as recurrent problems. They still remain a concern not only for the individuals who suffer but also for the health professions of different levels, due to high degree of disability to treat these pathologies. Although this is not a life threatening condition, it is a progressive condition in terms of deterioration. This has a significant effect on physical activity^(1,3).

Conventional treatment for degenerative changes of the hip joint has clear protocol. It includes medication, surgical treatment as well as physiotherapeutic rehabilitation post op to be successful. In addition to this, physiotherapy has a role in elimination of muscle contractures and pain post-operatively⁽²⁾. Evaluation of femoral articulation during gait.

Biomechanical evaluation of gait during these moments such as jumping, stepping and the positioning of the iliac crest during gait. It must be stressed that walking depends on several factors, these maybe active muscular contractions or passive factors such as gravity, body weight etc... The activity and coordination of muscles is automatic command by the Central Nervous System (CNS).

In degenerative hip pathology, gait pattern changes are evident including antalgic gait (limping). The antalgic gait pattern is a result of many factors including muscular weakness, leg length discrepancy or joint pain.⁽⁵⁾ This leads to loss of coordination, loss of independence and balance. Antalgic gait is closely linked to hip degenerative change in the frontal and sagittal plain otherwise known as limping backwards and forward and side to side.

A forward limp is present in flexion contractures and it's more evident in a hip joint stiffness. Lumbar lordosis from shortening of the affected side. During gait flexes forward to compensate the flexion contracture and anterior lumbar spine.

A sideways limp is also seen in adductor contractures. Muscular shortening can have the appearance that there is a leg length discrepancy.

Adaption of this situation is connected with the installation of the lumbar functional Scoliosis. This oblige the patient walking on top of the toes. In condition of monopodale walking, they need to balance the sacroileak join. Antalgic limp and the use of the rod;

This is an interesting phenomenon biomechanical who has found this explanation too long after people have used as compensation to persons with disabilities. The result of this phenomenon is the reduction of the resultant force acting on the center of rotation in the femoral head. In these conditions, the articulation works under a mechanical force of about 25-30% smaller, bringing the antalgic effect.

From our study it was observed that patients used crutch –

- Walking with 1 crutches / 10 patients
- Walking with 2 crutches / 5 patients
- Walking with 1 crutch / 10 patients
- Walking with no help / 10 patients

Material and Methods

They are under study 50 patients. Report M / F is 20 M / 30 F. The age group of 35 -75 years old patients, average age 55 years. Patients were hospitalised in the Orthopedic and Traumatology Service locomotor at the University Trauma Center "Panayiotis Boga" in Tirana.

The study was performed between June 2015- June 2016. Patients were diagnose with primary and secondary hip degenerative change (those who required a total hip replacement). The study is prospective and randomised. The outcome measure used was the womac index which was completed two week prior to surgery, two weeks and four weeks after surgery and was completed by all patients.

The WOMAC ⁽⁴⁾ (Westren Ontario and McMaster Universities) index is used to assess patients with osteoarthritis of the hip or knee using 24 parameters. It can be used to monitor the course of the disease or to determine the effectiveness of anti-rheumatic medications.

Pain: 1. Walking, 2. stair climbing, 3. Nocturnal, 4. Rest, 5. weight bearing

Results

Pain 2 Weeks before sergery		Pain 2 Weeks after sergery		Pain 4 Weeks after sergery	
>55 years	<54 years	>55 years	<54 years	>55 years	<54 years
15 points	18 points	10 points	12 points	3 points	5 points

Table 1: Shows the results of pain change 2 – 4 weeks after surgery

Stiffness: 1. morning stiffness, 2. stiffness occurring later in the day

Stiffnes 2 Weeks before sergery		Stiffnes 2 Weeks after sergery		Stiffnes 4 Weeks after sergery	
>55 years	<54 years	>55 years	<54 years	>55 years	<54 years
8 points	8 points	7 points	10 points	5 points	3 points

Table 2: shows the results of stiffness change 2-4weeks after surgery

Physical function: 1. descending stairs, 2. ascending stairs, 3. rising from sitting, 4. standing , 5. bending to floor, 6. walking on flat, 7. getting in or out of car, 8. going shopping, 9. putting on socks, 10. rising from bed, 11.taking off socks, 12. lying in bed, 13. Sitting, 14. Sitting, 15. getting on or off toilet, 16. heavy domestic duties, 17. light domestic duties

While the index was being developed performance of social functions and the status of emotional function were also included. These were not included in the final instrument.

Phisical function 2 Weeks before sergery		Phisical function 2 Weeks after sergery		Phisical function 4 Weeks after sergery	
>55 years	<54 years	>55 years	<54 years	>55 years	<54 years
60 points	50 points	30 points	18 points	20 points	10 points

Table 3: Shows the change of physical function 2-4 weeks after surgery

Social function:1. leisure activities, 2. community events, 3. church attendance, 4. with spouse, 5. with family, 6. with friends, 7. with others

Emotional function: 1. Anxiety, 2. irritability , 3. Frustration, 4. Depression, 5. relaxation , 6. Insomnia, 7. Boredom, 8. Loneliness, 9. Stress, 10. well-being

Scoring and Interpretation:

Response Points none 0, slight 1, moderate 2, severe , 3 extreme , 4.

Interpretation:

- minimum total score: 0 • maximum total score: 96 • minimum pain subscore: 0
- maximum pain subscore: 20 • minimum stiffness subscore: 0 • maximum stiffness subscore: 8 • minimum physical function subscore: 0 • maximum physical function subscore: 68

Rehabilitation protocol is applied in 4 phases⁽⁷⁾

Criteria to pass from one phase to the next is: Minimum pain, minimum edema and minimum inflammation.

Protective phase (1-4 post op day)

- Usage of cold therapy 3-4 times every day for 15 minutes
- DLM

- Active and active-passive mobility in bed
- Isometry and QC, GL max, GL med
- Taloclural Pump
- Transfers in the bed/ sitting on the edge of the bed

Tips : No crossed legs, No adduction, No internal/external rotation, No extension

Transition Phase – Weeks 1-3

- Active mobilization / Active - passive
- Taloclural Pump ; inversion/eversion
- Add, abd KF
- P/AP/AROM exercises lying down
- Strengthening of QC with open and closed scheme
- Walking Lessons
- Strengthening of add, abd, gluteal, ischium
- Usage of crutches

Third Phase - Weeks 3-6

- Progressive idem
- Static bike
- Abd muscle strengthening and trunk stabilization
- Closed scheme activity: side step
- Balance exercises; Staying on one leg, with open eyes and closed eyes
- Lateral walking
- Squats
- Stairs

Fourth Phase – Weeks 6-12

- Progressive idem with resistance and repetition
- Exercises with trunk stabilization
- Squats
- Proprioception and balance exercises
- Treadmill, bike

Conclusion.

In conclusion we can say that: 50 patients are rehabilitated, 30 F, 20 M, ratio M / F was 1: 1.5. The average age was 55 years and the average hospital stay was 6.2 days. 80% of patients are rehabilitated within 3 months, while 20% of patients have continued rehabilitation to 6 months due to the presence of hypotonise of the quadriceps muscle. By results, can be said that there is no relationship between age and recovery of function after Hip joing replacement according to WOMAC INDEX.

Similar studies are conducted in various countries^(4,6). The achievements of our study correlate with studies made in various countries.^(4,6). The treatment protocol is based in guide lines.⁽⁷⁾

Recommendations:

From this study we can make some recommendations, which help as follows Specialist doctors, Rheumatologist, Orthopedics, Rehabilitation of the Hip joing replacement recommend the complete rehabilitation of the patient for AVJ. Replacement and rehabilitation of hip joing enables rehabilitation for AVJ, without being influenced by patient age.

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