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The quality of life of patients after hip replacement with use of MAYO prosthesis and kapoplastic

Jakość życia pacjentów po protezoplastyce stawu biodrowego protezą MAYO oraz kapoplastyce

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Summary

Introduction. Total hip arthroplasty has become one of the most successful surgery procedure used in the treatment of osteoarthritis. More and more active, young patients undergo primary hip replacement. The aim of this study was to evaluate the influence of Mayo prosthesis and hip resurfacing on health-related quality of life.

Materials and methods. The study was conducted at the Clinic of Orthopaedics and Traumatology, Jagiellonian University, Collegium Medicum. The study involved 38 patients: (\bar{X}_{age} : 55±8,5), who underwent hip replacement surgery in 2005-2009. The modified SF-36 (*Medical Outcomes Study 36-item Short Form*), WOMAC (*Western Ontario And McMaster Universities*) and WHORQOL-100 questionnaire was used for research. The Quality of life was investigated before and after surgery.

Results. After operation the improvement was observed in the following domains: physical, psychological, level of independence, social relations, ability to work, personal social relations, positive feelings and the global quality of life.

Conclusions. Despite the short follow-up, Mayo prosthesis and hip resurfacing already represent valuable alternative for younger patients.

Key words: quality of life, short – stem prosthesis Mayo, hip resurfacing, osteoarthritis

Streszczenie

Wstęp. Protezoplastyka stawu biodrowego jest jedną z najbardziej skutecznych procedur chirurgicznych stosowanych w leczeniu choroby zwyrodnieniowej. Tego typu leczenie dotyczy coraz częściej osób młodych. Praca przedstawia ocenę jakości życia pacjentów po endoprotezoplastyce stawu biodrowego z zachowawczym trzpieniem Mayo i po endoprotezoplastyce pokrywającej.

Material i metody. Badania przeprowadzono w Klinice Ortopedii i Traumatologii Narządu Ruchu Uniwersytetu Jagiellońskiego, Collegium Medicum. Badaniem objęto grupę 38 pacjentów (29 kobiet i 9 mężczyzn). Do pomiaru jakości życia użyto zmodyfikowanego kwestionariusza: SF-36 (ang. *Medical Outcomes Study 36-item Short Form*), WOMAC (ang. *Western Ontario And McMaster Universities*) oraz WHORQOL-100. Badano jakość życia przed i po operacji.

Wyniki. Po zabiegu operacyjnym uzyskano znaczną poprawę w zakresie następujących domen: zmniejszenia odczuwanego bólu i dyskomfortu, zwiększenia aktywności fizycznej, psychicznej, społecznej i globalnej jakości życia.

Wnioski. Zachowawczy trzpień Mayo i endoproteza pokrywająca są wartościowymi alternatywami dla młodych chorych. Grupa osób po zabiegu protezoplastyki wykazuje lepszą jakość życia niż chorzy ze zmianami zwyrodnieniowymi.

Słowa kluczowe: jakość życia, endoproteza przynasadowa Mayo, kapoplastyka, choroba zwyrodnieniowa

INTRODUCTION

Actually the most important goals of physiotherapy, regardless of the nature of the dysfunction, is to improve the physical condition and fitness of the patients. Often patient's good health is identified with the concept of „quality of life” (called “health-related quality of life”, HRQL). In medicine this concept of „quality of life” appeared the first time in the seventies as a keyword reflected in the Index Medicus. The International Society for Health-Related Quality of Life Research was established in 1977 [1,2]. Since then the relationships with patients have changed. We have considered in therapy the feedback from patients about the situation in which they found themselves during illness and cooperation in adapting appropriate treatment and rehabilitation [3].

Aging of the population resulted in the increasing number of people affected by osteoarthritis (OA). Osteoarthritis is now an important clinical problem, resulting in the significant reduction of patient's activity but it can also be associated with many other complications such as cardiovascular and respiratory systems diseases, obesity and dementia [5-7]. OA it's the leading cause of motor dysfunction of people over fifty years old, of whom often causes severe disability. The etiology of osteoarthritis is multifactorial and involves a number of factors including biochemical, immunological, inflammatory or mechanical [5-7]

The occurrence of symptomatic osteoarthritis is typical to 5-6 decade of life, but almost 100% of people over the age of 75 manifest clinical signs [8]. In patients with a congenital hip pathology pain appears at age of 20-30 [9].

There are two methods of surgical treatment of coxarthrosis: the first keeps hip joint (e.g. osteotomy), the second is hip replacement (alloplasty). The “Total Hip Replacement” is an effective method of treatment however in young patients a quick loosening of the prosthesis is observed due to high physical activity. Sport activity, hard work, artificial hip joint overloads may cause osteolysis, tribological wear or loosening of the implant. These data were confirmed by the Swedish National Registry of hip arthroplasty, and therefore contemporary investigations focus on researching for implants that would prevent extensive bone resection [11]. We've improved resurfacing endoprosthesis by using metal-to-metal articulation and also metaphyseal arthroplasty using short stems, such as Mayo stem. Alternative (to THR) surgical treatment of osteoarthritis is resurfacing endoprosthesis, which is most effective in restoring activity and less invasive. Endoprosthesis Mayo (the Mayo Conservative Hip System) was developed by Dr. Brnard Morrey from the Mayo Clinic in Rochester. The prosthesis is cementless and has a short, tapered in two planes wedge stem which provides due to its irregular shape immediate stability after implantation into the bone marrow cavity, metaphysis and intertrochanteric area after. It's a long life implant too [12].

The aim of this study was to analyze the impact of different types of hip alloplastic surgery on patient's quality of life conditioned by general health, physical social and professional activity evaluation.

MATERIALS AND METHODS

The study involved 38 patients ($\bar{X}_{age}: 55 \pm 8,5$), who underwent hip replacement surgery in 2005-2009. Mayo prosthesis were implanted in 22 patients, and other 16 underwent resurfacing procedure. The study was conducted at the Clinic of Orthopaedics and Traumatology, Faculty of Science, Jagiellonian University, Collegium Medicum, in the Rydygier Hospital in Krakow.

Patients were divided into different age categories: 19-24 year old - 5 persons, 25-30 years-two people, 31-35 years old - 5 persons, 36-45 years - 13 persons, 46-55 years - 13 people.

To assess the patient's quality of life a survey questionnaire, which is the modification of your SF-36, WOMAC and WHOQOL-100, have been used.

The anonymous survey included 29 questions. Some questions, such as Question 1 about the pain experienced before and after the procedure has been developed to seven detailed questions (about) pain during physical activities. In total our questionnaire consists of 100 questions collected/divided in seven major areas of functioning of the human (7 areas of life also divided into different numbers of subscales).

SUBJECTS AND SUBSCALES

I. The pain and discomfort:

1. Physical pain and its impact on daily activities and sleep and rest before and after the procedure – question (Q) 1.
2. Intensity of (character) physical pain before and after surgery – Q 2.
3. Feeling different leg length and discomfort associated with it before and after surgery – Q 3., 4.

II. Problems related to physical wellness: activities of daily living, household chores

1. Activities of daily living, difficulty in performing each activity before and after surgery – Q 7., 8., 9.
2. Satisfaction of physical functioning before and after surgery – Q 5.
3. Physical functioning limitations in everyday activities before and after surgery – Q 6.
4. Self-assessment capacity to manage everyday activities before and after surgery – Q 5.

III. Family life, sexual activity, social activity, social relationships:

1. Assess the Impact of symptoms (feeling pain, limited range of motion) on family relationships before and after the procedure – Q 11.
2. Assess the impact of surgery on social contacts and social life (or lack of improvement after surgery) – Q 13., 14.

3. Assess the Influence of health status on social functioning (family life) before and after surgery - Q11., 14., 16.
 4. Assess the impact of treatment on family life (improving relationships or lack of improvement) after surgery – Q 12.
 5. Assess the of general health on sex life (existence of sexual problems before surgery) – Q 15.
 6. Assess the impact of surgical treatment on sex life (satisfaction or dissatisfaction) – Q 16.
- IV. State of being - negative feelings, positive feelings:
1. Depression, giving up, anxiety, despair, before and after surgery – Q 17.1, 17.2
 2. Embarrassment, shyness before and after surgery – Q 18.1., 18.2.
- V. Work and professional activity:
1. Professional activity before and after surgery – Q 19.
 2. Impact of health on physical activity before and after surgery - Q 20.12.

- VI. Sports and Recreation:
1. Sport activity before surgery - Q 22.
 2. Impact of health on recreational sports activity before surgery – Q 23.
 3. Impact of prosthesis on sports activities after surgery – Q 24.
- VII. Self reported patient general health assessment:
1. Global health assessment before and after surgery – Q 25.1., 25.2.
 2. Self-assessment of health status compared to pre-treatment (improvement or lack) – Q 26.
 3. Quality of life after surgery - Q 27.

RESULTS

It has been shown that 26.32% of respondents identified the pain experienced before the surgery as intolerable, 57.89% felt a strong pain, 15.79% moderate. None of the subjects experienced poor pain or no pain before surgery. After surgery 50% of patients experienced weak pain, and the other 50 persons had no pain at all.

Tab. 1. Summary of results for the pain feeling during night before and after surgery

Quest. 1.4 „Did you feel pain during night before/after surgery”?				
Answer	MAYO (57,89 %)		Hip resurfacing (42,11 %)	
	Before surgery	After surgery	Before surgery	After surgery
No pain	7,89 % 3 pers.	39,47 % 15 pers	15,79 % 6 pers.	36,84 % 14 pers.
Pain during movements	47,37 % 18 pers.	18,42 % 7 pers.	26,32 10 pers.	5,26 % 2 pers.
Pain at rest	2,63 % 1 pers.	0 %	0 %	0 %

Source: own research

Tab. 2. Summary of results for the pain at rest in relation to surgery

Quest. 1.5. “Do you feel /Did you feel the pain at rest?”				
Pain at rest	MAYO		Hip resurfacing	
	Before surgery	After surgery	Before surgery	After surgery
Pain	36,84 % 14 pers.	0%	7,89 % 3 pers.	0 %
No pain	21,05 % 8 pers.	57,89 % 22 pers.	34,21 % 13 pers.	42,11 % 16 pers.

Source: own research

Tab. 3. Summary of results for the pain when lifting heavy objects before/after surgery

Quest. 1.6 „Do you feel any pain when lifting heavy objects?”				
Pain when lifting heavy objects	MAYO		Hip resurfacing	
	Before surgery	After surgery	Before surgery	After Surgery
Pain	57,89 % 22 pers	28,95 % 11 pers	34,21 % 13 pers	26,32 % 10 pers
No pain	0%	28,95 % 11 pers	7,89 % 3 pers	15,79 % 6 pers

Source: own research

During gait before surgery, the pain was felt by each subject - no one answered - „no pain”. In the beginning of march the pain was present in 71.05% of people and intensified during the onward march. After surgery none of the respondents did not feel pain during locomotion. Pain after undergoing a certain distance before the surgery was per-

formed in 28.95% of responders, after surgery - in 47.37%, and 52.63% of patients did not feel any pain at all. Among patients undergoing hip resurfacing - 21.05% of people did not feel the pain during a short gait and only after undergoing a long distance. In all patients undergoing total hip replacement with prostheses Mayo - 57.89% of the group

Tab. 4. Summary of results for the pain when getting up from a chair, a toilet without using your hands before/after surgery

Quest. 1.7. "Do you feel pain when getting up from a chair, a toilet without using your hands?"				
Pain when getting up from a chair, a toilet without using hands	MAYO		Hip resurfacing	
	Before surgery	After surgery	Before surgery	After surgery
Pain	50 % 19 pers.	7,89 % 3 pers.	26,32 % 10 pers.	10,53 % 4 pers.
No Pain	7,89 % 3 pers.	50 % 19 pers.	15,79 % 6 pers.	31,58 % 12 pers.

Source: own research

Tab. 5. Summary of results for physical function before and after surgery

Physical function before and after surgery	Before surgery	After surgery
	Difficulties before surgery	Difficulties after surgery
Standing	73,68 % 28 pers.	7,89 % 3 pers.
Lying In bed	42,11 % 16 pers.	2,63 % 1 pers.
Sleeping (turning over, maintaining hip position=	55,26 % 21 pers.	7,89 % 3 pers.
Rising from bed	71,05 % 27 pers.	21,05 % 8 pers.
Bathing & clothing	78,95 % 30 pers.	21,05 % 8 pers.
Putting on socks/stockings	100 % 38 pers.	60,53 % 23 pers.
Bending to floor/pick up an object	84,21 % 33 pers.	39,47 % 15 pers.
Getting on/off toilet	63,16 % 24 pers.	21,05 % 8 pers.
Getting in/out of bath	89,47 % 34 pers.	21,05 % 8 pers.
Sitting on a chair	44,74 % 17 pers.	13,16 % 5 pers.
Sitting	42,11 % 16 pers.	13,16 % 5 pers.
Rising from sitting	63,16 % 24 pers.	21,05 % 8 pers.
Getting in/out of car	86,84 % 33 pers.	34,21 % 13 pers.
Walking on flat surface	42,11 % 16 pers.	10,53 % 4 pers.
Walking 100m	50 % 19 pers.	10,53 % 4 pers.
Walking 150 m	57,89 % 22 pers.	13,16 % 5 pers.
Walking 1 km	97,37 % 37 pers.	44,75 % 17 pers.
Shopping	84,21 % 32 pers.	26,32 % 10 pers.
Light domestic duties	57,89 % 22 pers.	21,05 % 8 pers.
Heavy domestic duties	81,58 % 31 pers.	28,95 % 11 pers.

Source: own research

of respondents did not feel any pain during gait, 26.32% have pain only after undergoing a certain distance.

The experience of pain complaints is associated with the period of observation. With the extended period of time after surgery were reduced pain or failure pain complaints.

Before surgery, pain on standing more than 30 minutes 94.74% of the respondents felt, after surgery only 5.26%. Before surgery, 86.84% of the subjects felt the pain when climbing stairs, after surgery only 7.89%.

The experience of pain during sleep before and after surgery is presented in the table 1.

Tab. 6. Difficulties in everyday activities in relation to surgical method

Difficulties in everyday activities	MAYO	Hip resurfacing
	I've had	I've had
Standing	50 % 19 pers.	23,68 % 9 pers.
Lying in bed	31,58 % 12 pers.	10,53 % 4 pers.
Sleeping	39,47 % 15 pers.	15,79 % 6 pers.
Raising from bed	47,37 % 18 pers.	23,68 % 9 pers.
Bathing & Dressing	52,63 % 20 pers.	23,68 % 9 pers.
Taking off socks/stockings	55,26 % 21 pers.	39,47 % 15 pers.
Bending to floor/pick up an object/kneeling	47,37 % 18 pers.	36,84 % 14 pers.
Getting on/off toilet	44,74 % 17 pers.	18,42 % 7 pers.
Getting in/out of bath	52,63 % 20 pers.	36,84 % 14 pers.
Sitting on chair	28,95 % 11 pers.	15,79 % 6 pers.
Sitting on chair	42,11 % 16 pers.	21,05 % 8 pers.
Rising from sitting	42,11 % 16 pers.	21,05 % 8 pers.
Get In/out a car	47,37 % 18 pers.	39,47 % 15 pers.
Walking on flat surface	23,68 % 9 pers.	18,42 % 7 pers.
Walking 100 m	28,95 % 11 pers.	21,05 % 8 pers.
Walking 150 m	31,58 % 12 pers.	26,32 % 10 pers.
Walking 1 km	57,89 % 22 pers.	28,95 % 11 pers.

Source: own research

Tab. 7. Summary of results for the difficulty to going up/down stairs before and after surgery

Quest. 8. "Do you Feel any difficulties when going up stairs?"				
Answer (Difficulties)	MAYO		Hip resurfacing	
	Before surgery	After surgery	Before surgery	After surgery
None	2,63 % 1 pers.	28,95 % 11 pers.	0 %	23,68 % 9 pers.
Mild	23,68 % 9 pers.	28,95 % 11 pers.	21,05 % 8 pers.	18,42 % 7 pers.
Severe	28,95 % 11 pers.	0 %	21,05 % 8 pers.	0 %
Impossible to go up/down stairs	2,63 % 1 pers.	0 %	0 %	0 %

Source: own research

After surgery there was no pain during the rest (table 2.).

It has been shown a significant reduction in number of subjects who feel pain during lifting heavy objects after surgery (Table 3.).

The results showing the answer to the question of the appearance of pain when getting up from a chair/toilet presented in Table 4.

After surgery the number of people experiencing shortening of the lower limb decreased: 65.79% of the respondents said that they had before surgery reduced lower limb, while after surgery only 42.11%. Discomfort due to shortening of the lower limb before surgery, 60.53% of the respondents felt, while after surgery only 26.32% of respondents.

No satisfaction for its exercise capacity in daily life before the surgery marked 92.11% of respondents, felt satisfaction after surgery - 89.47%. From a group of 34 patients (89.47% of respondents) who said that they

definitely are satisfied with their physical fitness, after surgery 50% were patients after kapoplastic of hip.

Summary of the results of the physical function in relation to surgery include tables 5. and 6.

After surgery patients have less difficulties to go up (Table 7) and down (Table 8) stairs.

In response to a question about necessity of use orthopedic assistive devices, 10.53% of the respondents stated that they had used one walking stick, one elbow crutch, 2.63% had used two elbow crutches, 86.84% did not use assistive devices. After surgery, 94.74% of patients did not need to enlist the help of orthopedic, 5.26% had to use one elbow crutch, but these were the patients subjected to surgery in 2009 in the follow-up period did not exceed six months.

Problems in family relationships before the surgery 55.26% of people felt: 7.89% experienced such problems very often, 13.16% often, 34.21% occasionally. After surgery 92.11% of the respondents did not have problems in family relationships.

Tab. 8. Summary of results for the difficulty to going down stairs before and after surgery

Quest. 9. "Do you feel any difficulties when going up stairs?"				
Going down stairs difficulties	MAYO		Hip resurfacing	
	Before surgery	After surgery	Before surgery	After surgery
none	10,53 % 4 pers.	34,21 % 13 pers.	7,89 % 3pers.	31,58 % 12pers.
Mild	10,53 % 4 pers.	23,68 % 9 pers.	10,53 % 4 pers.	10,53 % 4 pers.
Moderate	26,32 % 10 pers.	0 %	18,42 % 7 pers.	0 %
Severe	10,53 % 4 pers.	0 %	5,26 % 2 pers.	0 %

Source: own research

Tab. 9. Summary of results showing the impact of clinical symptoms on social life and on a way to spend free time in relation to the age

Quest. 12. "Did clinical symptoms impact your social life and a way to spend free time?"				
Impact age	No impact	Rarely	Often	Very often
19-24	0 %	5,71 % 2 pers.	2,86 % 1 pers.	0 %
25-30	0 %	5,71 % 2 pers.	0 %	0 %
31-35	0 %	2,86 % 1 pers.	2,86 % 1 pers.	8,57 % 3 pers.
36-45	0 %	14,29 % 5 pers.	5, 71 % 2 pers.	14,29 % 5 pers.
46-55	0 %	5,71 % 2 pers.	14,29 % 5 pers.	17,14 % 6 pers.

Source: own research

Results have revealed an improvement of social contacts and sex life after surgery (table: 9, 10).

Results of the surveys analysis indicated that the surgery canceled out the negative patients feelings caused by osteoarthritis (Table: 11., 12.).

Before the surgery 78.95% of the respondents showed occupational activity, after surgery this number increased to 84.21%. Before surgery 13.16% of the respondents answered that the pain prevented them from fully performed professional work, 57.89% of the respondents worked professionally, but the discomfort caused them serio-

us problems in their job, 28.95% had no problems in performing professional work in spite of experienced ailments. After surgery problems in performing professional work resolved completely in 28.95% of the respondents, in 42.11% of them ailments not resolved completely, but subjects admit that they have no problem with the performance of professional work. In 18.42% of patients ailments not resolved completely and have problems with the performance of professional work, only 10.52% of respondents still feel considerable difficulties and is unable to perform the job.

The procedure resulted in a significant improvement in access to sports activities by the respondents. Before the surgery sports (professional or recreational) cultivated at 31.57%, subjects. After surgery only 2.63% of the respondents were not able to play sports.

The results show improvement in subjective assessment of quality of life (table 13).

Subjectively, in comparison to the state before surgery all patients felt improvement of general health (table 14.)

The surgery resulted in an increase of subjective assessment of the quality of life. None of the respondents did not answer provider of low and very low quality of life, while most of the answers before the surgery indicated that the patient ranked their quality of life as very low and average.

Tab. 10. Summary of results for patient's sex life before and after surgery

Quest. 16. "Are you satisfied with your sex life after surgery?"		
Sexual satisfaction	MAYO	Hip resurfacing
Definitely yes	28,95 % 11 pers.	21,05 % 8 pers.
Rather yes	21,05 % 8 pers.	21,05 % 8 pers.
moderately	5,26 % 2 pers.	0 %
Definitely no	0 %	0 %

Source: own research

Tab. 11. Summary of results for patient's depression, giving up, anxiety, despair in relation to surgery

Quest. 17.1, 17.2. "Are you experienced feelings of depression, giving up, anxiety, depression, despair?"				
Answer	MAYO		Hip resurfacing	
	Before surgery	After surgery	Before surgery	After surgery
No	26,32 % 10 pers.	42,11 % 16 pers.	21,05 % 8 pers.	34,21 % 12 pers.
I don't know	18,42 % 7 pers.	15,79 % 6 pers.	10,53 % 4 pers.	7,89 % 3 pers.
Yes	13,16 % 5 pers.	0 %	10,53 % 4 pers.	0 %

Source: own research

Tab. 12. Summary of results for the experience of embarrassment or shyness in relation to surgery

Quest. 18.1, 18.2. „Did you experience embarrassment, shyness before surgery?"				
Answer	MAYO		Hip resurfacing	
	Before surgery	After surgery	Before surgery	After surgery
Definitely yes	2,63 % 1 pers.	26,32 % 10 pers.	0 %	23,68 % 9 pers.
Rarely	15,79 % 6 pers.	26,32 % 10 pers.	26,68 % 9 pers.	18,42 % 7 pers.
Often	34,21 % 13 pers.	5,26 % 2 pers.	13,16 % 5 pers.	0 %
Very often	5,26 % 2 pers.	0 %	5,26 % 2 pers.	0 %

Source: own research

DISCUSSION

For many years, thousands of studies were conducted concerning the quality of life of patients influenced by various diseases. It is estimated that in Poland about 8 million people are affected by diseases of civilization, 40% of which is coxarthrosis [14]. This disease causes severe limitation of joints motion, pain along with the presence of contracture. All of these lead to a reduction of physical activity, exercise capacity and activities of daily living [15]. These problems largely disappear after a hip replacement surgery [16]. There is little data on quality of life after using this treatment method in Polish medical literature. Nowadays, it is a subjective assessment of the patient's condition which is taken into account when determining the effectiveness of medical treatments.

It is impossible to do a comprehensive comparison study due to differing research methodology. Despite the differences in the structure of questionnaires such as SF-36/SF-12, NHP or WOMAC, the results in terms of pain and function in patients with osteoarthritis are consistent.

Most of the studies focus on pain severity due to its role in a patient's quality of life. Our study shows a statistically significant improvement in the perception of pain. Reduction of pain, in turn, improves the quality of life of patients. This creates the opportunity of performing activities of daily living without previous pain and discomfort.

Tab. 13. Summary of results for the subjective assessment of health status in relation to surgery procedure

Quest. 25.1. „How do you evaluate your general health after surgery?”		
Answer	MAYO	Hip resurfacing
Very good	0 %	0 %
Good	5,26 % 2 pers.	2,63 % 1 pers.
Rather good	10,53 % 4 pers.	23,68 % 9 pers.
Bad	42,11 % 16 pers.	15,79 % 6 pers.

Source: own research

Tab. 14. Summary of results for the subjective assessment of the health's improvement before and after surgery

Quest. 26. „How do you assess an improvement in the current state of health compared to the state before the surgery?”				
Answer	MAYO	Hip resurfacing	Total	
Great improvement	21,05 % 8 pers.	15,79 % 6 pers.	36,84 % 14 pers.	84,21 % 32 pers.
Improvement	26,32 % 10 pers.	21,05 % 8 pers.	47,37 % 18 pers.	
Mild improvement	10,53 % 4 pers.	5,26 % 2 pers.	15,79 % 6 pers.	
None	0 %	0 %	0 %	

Source: own research

The study conducted by Łapaj et al [17] reported a marked improvement in the subscale on the pain and discomfort which, after hip replacement, achieved the highest increase of points. Similarly, a study conducted by Starowicz et al [17] observed decrease in the intensity of pain and the extent of its impact on daily activities. In studies, patients with osteoarthritis marked their quality of life based on pain perception [14], which after treatment showed significant improvement. Again, a study by Rocłowski et al [18] have shown a change in the perception of pain after surgery. Research by Gągała and Mazurkiewicz [19] presented a good early clinical results in patients undergoing kapoplastics of hip. Clinical score of hip capacity after surgery ranged from 90 to 100 points on the Harris scale. Similarly, the work of Cielniński et al [20] demonstrated significant improvement in pain and function, with an average subscale score of 57.7 points before the kapoplastics of hip, compared to 87.7 points after surgery. A study by Niedźwiedzki et al [12] concerning surgical treatment of young people using the Mayo endoprosthesis showed pain relief and improvement in the range of motion, proven by very good score on the Harris hip scale, with an average of 94.8 points. A seven-year follow-up confirmed the usefulness of the Mayo endoprosthesis in surgical treatment of hip osteoarthritis in young people and adults.

The conducted study showed an improvement in daily activity and physical functioning along with an increase in autonomy, freedom and independence. This was due probably to the decrease in pain, greater mobility of the joint after surgery and removal of contractures. Detailed comparison of test results is difficult because of the wide variety of research tools. Goc et al [21], Ostendorf et al [22], Starowicz and colleagues [18] all reported an improvement in patient's mobility in activities such as walking, lifting, bending as a result of the surgery. In a study by Łapaj et al [13] in the field of physical activity after the operation recorded the highest increase in the number of points. Jones et al [23] found that 75% of hip and knee joint replacement surgery patients noted improvement in the field of pain, function and activity. These positive results have an impact on the future life of patients and their functioning in society.

In own research concerning dedicated social relations (family life, love life, social life), and ways of spending free time the visible improvement have been shown.. Before surgery, physical condition and the symptoms associated with the disease interfere with patients in their personal lives, causing problems in family relationships, sexual and social life. After the surgery significantly increased patient satisfaction and opportunities for social functioning to the extent they expected were demonstrated. Jędrzejczak et al [24] assessed the effects of the treatment arthroplasty compared to a leisure activity. Researchers diagnosed that the surgery impacted on the quality of life and a way of resting patients. Different results have shown in his research Łapaj et al [16]. His studies demonstrated that surgery did not produced significant improvement on the field of psychology and social relations of the subjected patients.

The probable reason of low improvement in social relations is related to their specificity. Arrangement of social relations or entering into a new environment and building a new relationship often requires a long time to do. Starowicz et al [17], in turn, did not observe statistically significant differences in the level of social functioning of patients, their family and social contacts before and 4 weeks after the surgery. Way of spending free time largely depends on whether and to what extent the respondent needs to use orthopedic assistive devices. Number of patients using assistive devices before surgery decreased significantly after this surgery. In the Jędrzejczak et al [24] paper 26 of 40 people who took part in the study, have no need to use crutches to move. Others use crutches temporarily or permanently, which means that their quality of life and expectations have not been fulfilled.

The results show the improvement of well-being of patients after surgery and increase the intensity of positive emotions. Most of patients confirm malaise before surgery, due to experiencing feelings of embarrassment, shyness, embarrassment because of ailments, less depression, anxiety, depression, despair. The treatment influenced in improved well-being of patients. The experience of negative emotional states in most patients after surgery was rare or disappeared. In Starowicz et al [17] studies on the area of emotional patients functioning before and after surgery authors have presented the highest significant improvement. The subscale measuring limit daily activities and responsibilities as a result of certain emotional difficulties achieved 30% progress. Goc et al [21] evaluated the quality of life after total hip replacement using the "Rotterdam list of symptoms". The resulting number of points allowed to assess the quality of life and to identify the most distressing symptoms. Results demonstrated the state of distress, depression, hopelessness and nervousness. In terms of ability to perform the

work he have shown significant improvement after arthroplasty. Most of the people before the surgery has been active professionally as a result of the fact that a group of subjects were young people. Considerable group of these patients admitted that the ailments caused them big problems with performing their job. Regardless of difficulty moving and pain in the majority of the respondents worked to secure a source of income. In this group, after surgery ailments resolved completely or to such an extent that it does not cause more problems with the performance of work. In a study of patients below 60 years old it was observed, that more than half of the unemployed before arthroplasty, undergo professional activity after surgery. Other studies also show that the hip arthroplasty has a positive effect on the occupational activity [25, 26].

Respondents who before getting sick practiced sport acknowledged that ailments prevent or restrict their physical activity. After surgery most respondents acknowledged that the restrictions disappeared and practicing sport at least a moderate extent. In the study of Jędrzejczak et al [24] the number of people practicing walking and cycling has increased after surgery.

Essential to the whole work was an independent assessment of the quality of life. A significant increase in subjective quality of life was observed. In a study by Papavasiliou and Villar [27] the quality of life after kapoplastic statistically significantly increased as compared to values before surgery. Jachimowicz-Wołoszynek et al [14] showed that the average points value evaluating overall quality of life after surgery significantly improved. In a study of Rocłowski et al [18] point evaluation of quality of life was not significantly higher after surgery than before. Łapaj et al [16] also demonstrated improvement in global quality of life. It can therefore be observed increase of subjective assessment of quality of life, which is associated with a visible improvement in the majority of domains. Above results have been confirmed by our present research..

Surgical treatment reduces the level of subjective pain perception allows to perform more daily activities, increase self-reliance, independence and freedom of patients and facilitates the functioning in different areas of life, from family life, the intimate sphere, social life via activity and sports, the well-being and good health ending.

CONCLUSIONS

1. Surgical method of kapoplastic operation and the Mayo endoprosthesis allows for greater daily physical activity as well as increases the patients independence and facilitates daily functioning.
2. Kapoplastic and Mayo endoprosthesis are effective treatment methods in advanced osteoarthritis of the hip in young and active people.

References/Piśmiennictwo:

1. Wójcik A., Kurjanowicz B., Bidacha M.: Ocena jakości życia w perspektywie medycznej. *Post. Rehab.* 2007; 4: 31-3
2. Kurkowski L.J.: Jakość życia i niewidoczny pacjent. *Gazeta Lekarska*, 1999, 12
3. Dobrowolski J., Wodiczko J.: *Medycyna bólu*, PZWL, Warszawa 2004
4. Słupik A., Białoszewski D.: Analiza porównawcza przydatności klinicznej skal Staffeinstein-Score i Hospital for Special SurgeryKnee. *Ortopedia, Traumatologia i Rehabilitacja* 2009; 1(6): 37-45
5. Gaździk T.: *Ortopedia i traumatologia. Podręcznik dla studentów medycyny*, Warszawa, Wydawnictwo Lekarskie PZWL 2002; 308-315
6. Wodzisławski W., Homik J., Krupa S., Góra M., Puźniak A.: Nierówność kończyn dolnych po endoprotezoplastyce totalnej stawu biodrowego. *Kwart. Ortop.* 2003; 2: 105-107
7. Szczepański L.: Choroba zwyrodnieniowa stawów (osteoartroza). *Reumatologia* 2000; 38(87)
8. Dorr L.D., Kane T.J., Conaty J.P.: Long-term results of cemented Total hip arthroplasty in patients 45 old or younger: a 16-year follow-up study. *J. Arthroplasty* 1994; 9: 453-45
9. Lane N.: Osteoarthritis of the Hip *N Engl J Med* 2007; 357: 1413-21
10. Wilk M., Frańczuk B.: Ocena zmian zakresu ruchu w stawie biodrowym u pacjentów ze zmianami zwyrodnieniowymi przed i po artroplastyce przy użyciu endoprotezy totalnej. *Chirurgia Narządów Ruchu* 2004; 3 (6): 342-349
11. Płomiński J., Kwiatkowski K.: Historia protezoplastyki stawu biodrowego. *Pol. Mer. Lek.* 2007; 23 (1280): 83-85
12. Niedźwiecki T., Niewiadomski A., Niedźwiecki Ł.: Całkowita alloplastyka stawu biodrowego u ludzi młodych z zastosowaniem protezy MAYO-wczesne wyniki leczenia. *Chir. Narz. Ruchu* 2007; 72 (5): 319-321
13. Kokoszka P., Staszczuk P., Redman M. i wsp.: Ocena odległych wyników endoprotezoplastyki stawu biodrowego protezą bezcementową typu Zweymuller. *Chirurgia Narządów Ruchu* 2008; 73(2): 94-100
14. Jachimowicz-Wołoszynek D., Roś D., Michalska A.: Wpływ wszczepienia sztucznego stawu biodrowego na jakość życia chorych z chorobą zwyrodnieniową stawu biodrowego. *Ortopedia, Traumatologia, Rehabilitacja* 2003; 5(4):518-526
15. Tate D., Sculco T.P.: Advanced In total hip arthroplasty. *Am. J. of Orthop.* 1998; 27: 274
16. Łapaj Ł., Kokoszka P., Jurga M., i wsp.: Jakość życia u chorych przed i po endoprotezoplastyce stawu biodrowego. *Cir. Narz. Ruchu* 2007; 72(4): 269-274
17. Starowicz A., Szwarczyk W., Wilk M., Frańczuk B.: Ocena jakości życia u pacjentów po operacji wszczepienia endoprotezy stawu biodrowego. *Fizjoterapia Polska* 2005; 5(3): 313-322
18. Rocławski M., Loreczyński A., Bieniecki M.: Ocena wpływu alloplastyki stawu biodrowego na jakość życia uwarunkowaną stanem zdrowia. *Chir. Narz. Ruchu*, 2008; 73(1): 5-9
19. Data for the Web: <http://www.pulsmedycyny.com.pl/index/archiwum/4018/1.html>
20. Cieliniński L., Kusz D., Wojciechowski P., Dziuba A.: Endoprotezoplastyka odtwarzająca powierzchnie stawu biodrowego – wczesne doświadczenia własne. *Ortop. Traumatol. Rehab.* 2007; 2(6): 168-177
21. Goc S., Gruszczyński W., Szytykiel A.: Wpływ protezoplastyki stawu biodrowego na jakość życia operowanych chorych, *Kwart. Ortop.* 2004; 4: 267-270
22. Ostendorf M., van Stel H.F., Buskens E., Schrijvers A. J., Marting L. N., Verbout A., Dhert W. J.: Patients-reported outcome IN total hip replacement. A comparison of five instruments of health status. *J. Bone Joint Surgery*Brit.* 2004; 86(6): 801-808
23. Jones C. A., Voaklander D. C., Johnstone D. W.: Health related quality of life outcomes after total hip and knee arthroplasties in a community based population. *J. Rheumatol.* 2000; 27(7): 1745-1752
24. Jedrzejczak M., Synder M., Marciniak M., Koza B.: Ocena jakości życia po alloplastyce stawu biodrowego. *Kwart. Ortop.* 2001; 4: 228-234
25. Lequesne M. G, Maheu E.: Clical and radiological evaluation of hip, knee and hand osteoarthritis. *Aging Clin. Exp. Res.* 2003; 15 (5): 380-390
26. Nilsson A. K., Petersson I. F., Ross E. M., Lohmander L. S.: Predictors of patients relevant outcome after total hip replacement for osteoarthritis: a prospective study. *ANN. Rheum. Dis.* 2003; 62 (10): 923-930
27. Papavasiliou A. V., Villar R. N.: Quality of life in different age groups after metal-on metal hip resurfacing arthroplasty. *Hip International* 2008; 18(4):307-312.