

Total Hip Arthroplasty Outcome (Hospital Results)

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Abstract

Introduction: Total hip Arthroplasty surgery (THA) is one of the most common and important surgical procedures performed in the orthopedic department. **Goal:** To audit the results and complications of Total hip Arthroplasty surgery. **Study Design:** A prospective study. **Place and Duration:** Department of Orthopedic Mohammad medical college and hospital Mirpurkhas Pakistan for one year from March 2019 to March 2020. **Materials and methods:** All THA-appointed patients were selected for the study after inclusion or exclusion criteria and after informed consent. Patients with severe osteoarthritis of the knee, a history of prior arthroplasty, bilateral osteoarthritis, unable for follow up, serious surgical contraindications, and mental disorders were excluded from the study. Harris Hip Score (HHS) was used to measure hip physical performance from 0 (bad) to 100 (excellent) points. All patients were observed for six months. The data was collected and analyzed using SPSS version 20.0 with a t-test analysis. **Results:** A total of 70 patients were evaluated. Out of the 24 (41.4%) were men, and the others were women. The mean age ranged from 56.8 to 66.56 years. The HHS average was 49.69-5 before surgery but improved significantly to 88.02-4.04 in the sixth month after THA (p.0001). **Conclusion:** According to these studies, THA is associated with significant improvement and satisfactory outcomes in patients, and the rate of complications is low.

Keywords: Total Hip Replacement, hip pain, Osteoarthritis hip.

Introduction

THA is an effective method for patients in the terminal stages of osteoarthritis. It can reduce pain, increase patients' ability to walk, and restore their functions (Weber et al., 2019; Akbaba et al., 2019). THA is one of the most common orthopedic operations and is extensively performed worldwide (more than 1 million cases per

year). Pain and dysfunction are the most common causes of Osteoarthritis Hip as a result of degenerative changes in the hip joint and the treatment of choice is THA (Grammatopoulos et al., 2019; Tanaka et al., 2019). Other indications for surgery include trauma, old neglected hip dislocation, femoral necrosis, rheumatoid arthritis (RA), lupus, etc. According to previously published data, THA reduces pain after three to six months and improves the range of motion (Warnock et al., 2020; Jain et al., 2019). The procedure can be associated with several complications such as infection, hip and knee pain, surgical hematoma, ectopic binarization, thromboembolism, limb length, recurrent dislocation, and osteolysis (Pang et al., 2019; Wang et al., 2019). These complications are divided into three categories: 1) complications associated with surgery in the operating room. 2) Short-term complications after surgery. 3) Late complications after surgery (Tamboli et al., 2020; García-Rey et al., 2020). There are not enough studies that directly assess complications and THA results. The main purpose of this study was to examine patient results for THA surgery. Our results will be useful for doctors to find better positive and negative points of the THA procedure and choose a good option for treating patients. Healthy lifestyle patterns are considered one of the health-related practices that affect the performance and the future health of the youth (Algahtani, 2020; Hanawi, et al., 2020; Yusransyah and Suwantika, 2019; Kamali, et al., 2019).

Materials and Methods

This prospective study was conducted in patients admitted to the Department of Orthopedic in our hospital, for one year from March 2019 to March 2020. Excluded patients with severe osteoarthritis of the knee, mental disorders, previously total knee arthroplasty, bilateral osteoarthritis hip, large surgical cohesiveness, and lack of observation. Patients with isolated osteoarthritis knee, age above 50 years, previously active and mobile patients were included in this study. **Data collection:** The following information about the patient was collected: age, gender, height, weight, career, family history, smoking history, basal disease (femur fracture, fracture type, surgical approach, postoperative complications (bleeding, infection, dislocation, neurovascular damage). Patients were evaluated after surgery in the third and sixth weeks and the third, sixth, and at twelve months. Harris Hip Score (HHS) is used to measure the physical performance of the hips. HHS is a scale for assessing pain, patient function during various activities, deformation levels, and range of hip motion. The range of 90-100 points is excellent, 80-89 is good, 70-79 average and under 70 is used as a bad outcome. **Preoperative protocol:** Proper investigations and standard x-rays like pelvis AP view and

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involved hip AP and lateral view, chest xry, and ECG and Eco were done on all patients who were admitted. Baseline blood investigations were done. Patients were evaluated by internal medicine, anesthetist, and cardiologist if needed, and fitness was taken for surgery. Patients were admitted and pain management was done. Preoperative prophylaxis antibiotics (Ceftriaxone 1 gram intravenously every 12 hourly) were started.

Surgical procedure:

THA was performed by the same surgeon to all patients. Operations were carried out with a direct lateral (Hardinge) surgical approach. The procedures last from 45 to 90 minutes. All implants had a standard cemented cup and a cemented stem.

Postoperative protocol:

Prophylaxis (enoxaparin 4000 iu) for thromboembolism was used in all patients until they walk independently. Enoxaparin was later replaced with aspirin (80-160 mg per day). If necessary, blood was administered. 24 hours after the procedure, patients were encouraged to start walking (with a walker) and physical therapy rehabilitation was started with the help of a qualified physiotherapist. Patients were discharged from the hospital once they were independently walking with the walker.

Statistical Analysis

The collected data were analyzed in SPSS version 25.0. They underwent a descriptive analysis. Also, a T-test analysis was used to compare HHS between different categories. A P-value of 0.05 was considered statistically significant.

Ethical issues:

This study was approved by the Ethical committee. The test procedure was explained to all patients before surgery and all were informed.

Results

A total of 70 patients were enrolled in this study, of which 46 (41.4%) were male and 34 patients (58.6%) were women (Table 1). The average age is 57.5-17.46 years.

Surgical indications:

femoral head necrosis 27 (38.57%); dislocation of hip 20 (28.57%); osteoarthritis or degenerative disorders 18 (25.71%); femuro-acetabular impingement, 5 (7.14%).

Complications:

Postoperative infection occurred only in one ten days after surgery in a male patient. Complications were resolved after seven days of antibiotic treatment.

Table 1: Salient characteristics of the patients

Variable	N (%)
Gender	
Male	46 (65.7.)
Female	24 (34.28)
age {Mean± SD (year)}	57.5±17.46
Smoking	
Yes	7 (10)
No	63 (90)
Opium intake	
Yes	8 (11.42)
No	62(88.57)
Rheumatoid arthritis	
Yes	11 (15.71)
No	59 (84.28)
diabetes mellitus	
Yes	8 (11.42)
No	62 (88.57)

Three months after the operation, it was found that two patients over the age of 70 (one male and one woman) with dislocation after surgery had dislocated after surgery. The two diabetic patients underwent an analysis of the paresis of nerve, which was treated three months later. In no case was thromboembolism observed.

Table 2: The Harris Hip Score in patients before and after total hip arthroplasty in the third, sixth, twelfth, and twenty-fourth weeks.

time of Evaluation	Harris hip Score	
	mean	low level-high level
Before Surgery	48.70±4.90	47.96-52
3 rd week	43.27±5.50	42.29-43.98
6 th week	68.29±6.10	69.77-72.98
12 th week	75.43±4.40	76.51-80.74
24 th week	87.92±4.12	88.15-87.20

It is presented in HHS [Table 2] in patients at different times. As shown, average HHS was associated with an increase in the amount over time, although it decreased during the first three weeks. The preoperative average was HHS 48.70-4.90, and after 24 weeks it rose to 87.92-4.12 (p.001). [Table 3] The first right head of the femur shows a good result for a patient developed with devastating osteoarthritis, six months after surgery.

Table 3: Comparison of Harris Hip score between Rheumatoid Arthritis (RA) patients and non-rheumatoid arthritis patients.

time of Evaluation	Harris hip Score		p-value
	ra* subjects (mean± SD)	Non-ra subjects (mean± SD)	
Before Surgery	48.10±2.30	50.01±5.19	0.28
3 rd week	40.99±3.09	43.06±5.80	0.36
6 th week	73.14±5.90	71.12±7.11	0.35

12 th week	80.02±5.08	79.60±4.21	0.47
24 th week	88.70±4.60	87.60±4.10	0.98

* Rheumatoid arthritis

Table 4: Comparison of Harris Hip score between diabetic patients and nondiabetic patients.

time of Evaluation	Harris hip Score		P-value
	Diabetic subjects (mean± SD)	Non-diabetic subjects (mean± SD)	
Before Surgery	48.12±6.12	48.90±4.85	0.35
3 rd week	40.85±6.40	43.20±5.70	0.53
6 th week	69.90±2.20	71.20±6.30	0.91
12 th week	75.95±4.74	79.66±4.40	0.40
24 th week	83.80±5.89	89.40±3.78	0.07

The patient was able to walk well and promptly and perform all the necessary routine work without pain or limitations as we try to investigate the relationship between HHS and RA diseases and diabetes at different times. In this context, there is no significant difference in HHS between and without groups with and without these two diseases [Table 4].

Discussion

In this study, we evaluated the results of patients who performed THA. As you can see, HHS cases increased from 49.7 to 88 in six months after THA as compared to before surgery, indicating a satisfactory result. A Study Sachde B et al. showed that preoperative HHS was 49.1 in THA patients and reached 89.9 four years later and patients were fully satisfied with surgery (Yuasa et al., 2019; Srampickal et al., 2019). Gross AE et al., also noted that THA can lead to improved quality of life for patients. Also, a long-term study involving more than 90% of patients found that long-term outcomes in young patients were similar to those in older patients. In a study comparing hemiarthroplasty and THA Sharma et al results, these good results were also obtained in other studies that emphasized the usefulness of THA in getting the best of the patient's health (Feng et al., 2019; O'Neill et al., 2019). In our study, there was a significant difference between RA and non-RA patients at different times at an average HHS. Schnaser EA et al. In his article entitled RA and other inflammatory diseases, it was found that patients can be affected with postoperative recovery state if they have any kind of RA (Kreuzer, 2019; Finch et al., 2020). On the other hand, despite the highest number of co-events observed in RA patients were found to have a lower incidence of postoperative complications than in patients with osteoarthritis (Warren et al., 2020; Okike et al., 2019). One study showed that patients with PRIMARY RZS ED had a similar experience compared to patients with osteoarthritis. Another study also found that THA may be a good option for RA patients who are candidates for surgery (Viramontes et al., 2019). These reports match our findings, suggesting that there are probably no restrictions for THA in PATIENTS with RA. However, more work is required to verify

this problem. THA patients were found to have a much higher detection of HHS than HHS without diabetes. In a previous study, HHS did not differ between diabetics and non-diabetics, although the risk of diabetes infection increased (Ponnusamy et al., 2019; Bonner et al., 2019). On the other hand, some researchers explained that the results of patients with diabetes were controversial. These factors can cause, such as the duration of diabetes, how to control it, and other underlying diseases. Therefore, additional studies are required to find a link between THA and diabetes outcome (Galea et al., 2019; De Martino et al., 2019). Among the complications observed after surgery, the study included infection (one case), neuronal damage (one case), and subsequent output (two cases). Trojan et al., studies, deep vein thrombosis, and pulmonary embolism were most commonly reported as postoperative complications (Holte et al., 2019). Also, the rate of complications after surgery has been documented several times different by Schairer WW et al. surgery (Prentice et al., 2019). They also reported that the infection occurred mainly within the first three months. One of the complications is an infection that can cause a lot of problems for the patient. Therefore, the surgeon and the patient should work to prevent a stroke infection at the surgical site. Also, all infections should be treated before the procedure. Another possible complication is the dislocation in patients who are operated on for fractures and/or in people with pelvic muscle weakness (Larsson et al., 2019). Differences in postoperative complications depend on many factors, such as surgical facilities, skills, and experience of the patient, basic diseases of the patient, compliance with the instructions of medical care.

Conclusion

Total Hip Arthroplasty had satisfactory results for patients with osteoarthritis hip, and the complication was not significant. These results confirm the fact that Total Hip Arthroplasty is the treatment of choice if done with proper indications.

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