

Clinical Tomography and Functional Outcomes of Porcelain-Based Surgery on Older Patients

Lisa Balistreri*

Department of Rheumatology, Science & Technology, United States

Corresponding author: Lisa Balistreri

✉ lisa.balistreri@nyuone.org

Department of Rheumatology, Science & Technology, United States

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Abstract

Total hip replacement (THR) is a widely used surgical procedure to relieve pain and improve function and quality of life for patients with hip disorders. Osteoarthritis is the most common condition that leads to hypertension, with most surgeries performed to treat severe osteoarthritis that causes pain and limited function. Despite the apparent success of PTH, the search for improvement and better outcomes, especially in the long term, continues, especially in elderly patients, for whom little evidence remains science. To evaluate clinical, radiological and functional aspects before surgery and two years after hypertension using a ceramic component device in elderly coxarthrosis patients. A retrospective cohort study was performed to evaluate 65 elderly people with hip hypertension with an acetabular component (MD® ceramic head with acetabular insertion) in combination with an MD6® Phenom® femoral stem type, disease Institut de la Luz, São Paulo/SP, between 2018 and 2019. Anthropometric and clinical information on surgery and two-year follow-up were collected from the patient's medical records. To assess clinical function, the Harris Hip Score (HHS) questionnaire and hip motion angle measurement were applied. For X-ray parameters, acetabular component localization, DeLee region, and acetabular component transposition. The prevalence of hypertension was higher in men (53.8%). The radiographic parameters before and after surgery 2 years after surgery to treat hypertension showed that the positioning angle of the acetabulum ($p=0.083$) and femur ($p=0.102$) was maintained and function was increased. ($p<. ; 0.001$) and hip mobility ($p=0.001$) reduced pain after two years of hypertension. Complications related to dislocation, loosening, infection and improper implant placement are all low, only 1.5-3%. Elderly patients undergoing surgery for primary hypertension with an acetabular ceramic component device, during a two-year follow-up period, have been shown to be effective in improving clinical, radiological aspects and function.

Keywords: Hip; Osteoarthritis; Pain; Instability; Functionality

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Introduction

Osteoarthritis of the hip (THA) is a complex chronic disease characterized by degeneration of articular cartilage, thickening of subchondral bone, and bone proliferation is more relevant in men up to age 45 and in women over 60 years of age. It is a process characterized by structural and functional alteration of the hip joint, leading to severe pain symptoms and functional limitations in affected patients [1].

Currently, osteoarthritis affects around 250 million people worldwide, including adults and the elderly, and is considered to have a major impact on public health, with medical costs associated with the disease. In some low-income countries, estimated at 1% to 2.5% gross domestic product of these countries [2]. Total hip replacement surgery (THA) accounts for the largest share of these healthcare services and costs. THA is undoubtedly one of the great triumphs of orthopedic medicine and the entire health care system. For a long time, people with

severe hip disease have resigned themselves to living their lives with severely painful conditions. THQ has completely changed this framework. Many debilitated patients who were previously on crutches or in a wheelchair have received a promising and exciting new treatment [3]. The procedure allows these patients to maintain independence without placing a burden on family and society. Few surgeries have had such an effect on patients and society as a whole. Currently, one million hip replacements is performed each year worldwide [4].

Despite the high incidence of PTH, conservative treatment should be attempted before surgery is indicated, including weight loss, systemic or topical medication, physical therapy exercises (mobility, muscle strength, balance and walking exercises), use of a brace (cane) and guidance for the practice of physical activities. Therefore, the indication for PTH must be based on failure of conservative treatment and on a reasonable clinical framework. The primary sign is disabling pain, which worsens with physical activity and improves with rest. Reduced joint range of motion is also an important factor. This surgery is traditionally reserved for the elderly due to wear and tear of organs; however, with technological advancements, it is increasingly practiced among young people [5].

Therefore, the goal of PTH is to reduce pain and improve joint function. PTH is a joint replacement surgery, involving the acetabulum and femoral components, which must be fixed to the pelvis and femur, in order to achieve the best possible position to ensure the normal functioning of the joint. The acetabulum component, also known as the acetabulum cup, can be single and attached to the acetabulum [6]. An outer dome fixed without cement by means of pressure ("press fitting") and/or screw and an inner element ("liner" or "insert") embedded in the outer part. The femoral component typically consists of a stem that can also be cemented or placed without impact cement, and one end that fits the body. Precise positioning of the acetabular component is essential for the biomechanical stability of the PTH, ensuring its long-term survival, and preventing dislocation, which occurs when the head of the femoral component separates from the alveolar component [7]. The dislocation rate in primary hip replacement is between 1% and 4% and can reach 10% in modified cases. Of the 51,345 hip replacements performed in the United States between October 2005 and December 2006, the most common cause was dislocation (22.5%), with an average cost per patient of 54,553. Some authors believe that the poor position of the acetabular component is responsible for most dislocations [8].

Currently, positioning of the acetabulum component is achieved through the surgeon's experience and conventional mechanical guidelines. These guidelines are imprecise because they assume that the patient's torso and pelvis are aligned in a known direction on the operating table, without taking into account individual changes in the actual position of the pelvis on the operating table. The different movements possible during surgery. Therefore, clinical monitoring and imaging examination are important means used in postoperative hip replacement to control the position of prostheses [9].

Despite advances in cementless prostheses, there is still some discussion in the literature regarding the use of this model

in patients with rheumatoid arthritis, primarily progressive coxarthrosis. However, several studies have supported the use of cement-free prostheses to improve function in these patients. Understanding cement-free prosthetics with the use of a friction pair (ceramic head with ceramic socket), made in Brazil, to promote low-cost care in medical hospitals public, which encouraged this research [10].

Imaging parameters are an important tool, used to determine the operation of implantable devices, as well as the joint rehabilitation process, in order to achieve stability of the artificial joint. Even with the apparent success of PTH, the search for improvement and better results, especially in the long term, continues, mainly with the development of new surfaces, compatible materials. Prefer higher biology and less aggressive surgical techniques. This fact demonstrates the clinical relevance of the present study proposing to analyze, in the short and medium term, the clinical and radiographic aspects of patients who have experienced hip replacement, using these devices. MD® national composition. Therefore, the aim of this study was to evaluate the clinical, radiological and functional aspects before surgery and two years after hip replacement with a device with a ceramic acetabulum component in elderly patients with osteomyelitis.

Discussion

The aim of this study was to evaluate the clinical, radiological and functional aspects before surgery and two years after PTH (device with MD® national acetabular component, combined with Phenom® femoral stem) in elderly patients with osteoarthritis. Based on this rationale, the primary result showed a higher proportion of men performing hip replacement at a private hospital in southern São Paulo. Evaluated elderly subjects showed no difference in preoperative and postoperative radiological parameters two years after surgical treatment of hip replacement, suggesting maintenance of pelvic and femur positioning angles. Another important finding was an increase in function and analgesia in the elderly two years after hip replacement. Hip mobility also increased significantly in the two years after hip replacement, as well as several complications related to dislocation, loosening, infection, and poor positioning of the implant, over a two-year period. This short year during the follow-up of these patients. These results are clinically relevant, as suggested in the literature, with good appreciation for the sterile easing components, which only perform corrective surgery on patients with pain and function poor ability.

A population study conducted in the United States found that the prevalence of symptomatic hip osteoarthritis remains about 9.2% in adults 45 years of age and older, with 27% having radiological signs of the disease. A systematic review of the incidence of osteosarcoma on radiographs. Osteoarthritis of the hip shows an increase in mean incidence with age in both men and women. Men have a higher incidence of coxarthrosis between the ages of 50 and 60, while women have a higher incidence after age 60. According to the Centers for Disease Control and Prevention, the lifetime risk of developing severe and symptomatic hip osteoarthritis is 18. In the present study, it was noted that males had a higher incidence of PTH, a fact that could be explained by

the studies above, in which males were affected at a younger age than females. , making the chronic duration of osteoarthritis longer Hip thus developed before surgical treatment with PTH, which is of paramount importance in public and private hospitals. Another crucial factor found on this have a look at turned into the development in pre-operative radiographic parameters years after surgical remedy for THA, displaying accurate acetabular and femoral positioning after prosthesis, because the implant's femoral positioning remained ok in 98% of sufferer's years after THA. These findings reveal the effectiveness of the surgical approach with a cementless prosthesis in older sufferers with hip osteoarthritis from rheumatologic causes, the use of country wide acetabular factor fabric, that's a low-value gadget for public and personal fitness sanatorium care. According to the literature, worldwide, THAs are completed in about 1 million sufferers with hip osteoarthritis every yr that's a method that demonstrates an powerful value–gain courting, specifically cemented prosthesis, in older adults, whose frailties and useful disabilities can turn out to be even extra extreme with the presence of hip osteoarthritis. Although we did now no longer endorse to confirm the sanatorium value withinside the modern have a look at, the fabric used turned into country wide; therefore, it already promotes an powerful value–gain courting to the sanatorium, accounted for with the aid of using the discount in fees from imported materials, which turned into of exquisite value, as it's far a non-public sanatorium with exquisite call for for THAs. This significance turned into additionally reiterated in a have a look at completed in England, while looking at excessive call for for help and bodily-useful fitness take care of sufferers with hip and knee osteoarthritis with evolution to surgical remedy. From the angle of useful development, clinical proof has targeted at the toughness of hip implants to hold useful ability and joint mobility for the exercise of bodily sporting activities and sports of every day residing after acting for the reason that screw ups withinside the THA method can bring about worse clinical-useful outcomes. In the modern have a look at, there has been an boom in capability and gait, with a discount withinside the signs of hip ache withinside the

older adults years after cementless THA. Furthermore, there has been a boom in hip joint mobility, that's of essential significance for enhancing affected person cappotential to carry out every day exercising and activity. These findings are in keeping with a retrospective cohort have a look at, with a 15-yr follow-up, which include forty nine sufferers who underwent THA with cementless femoral fixation (cobalt-chromium rod with proximal porous coating), wherein capability elevated considerably, with a discount in ache signs withinside the hip and thigh the factor turned into revised and repositioned properly. In the best case of loosening verified, the affected person had osteolysis across the acetabular factor to De Lee sector 3. Despite the obvious radiographic loosening, the affected person had low useful call for because of age, few court cases of ache, and, till the realization of this have a look at, did now no longer need to go through factor replacement. As all of the prostheses used had been the ceramic-on-ceramic type, it turned into now no longer anticipated that any affected person might gift put on of the components, for the reason that put on of the ceramic is extraordinarily low. Thus, the share of headaches from THAs withinside the older sufferers, after years (short-time), remained at 6%, displaying blessings of the prosthesis and a discounted percent while as compared to a have a look at completed evaluating older adults (suggest 72.2 years, with male prevalence) in a 7-yr follow-up. The consequences determined had been intraoperative headaches, including femoral or acetabular fractures (5.3%), dislocation prices of 2.8%, failure prices of 2% (while there has been aseptic loosening of the revised factor), and 9.3% implant survival.

Conclusions

Elderly patient with hip osteoarthritis, due to rheumatic causes, underwent total hip replacement surgery with porcelain on ceramic, not cemented with the national acetabulum component material, the cost of hospital care low hospital, during two years of follow-up, showed improvement in clinical, radiological, and functional parameters.

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