

Post-Surgical Complications of the Elderly Patient with Total Hip Arthroplasty at the Hospital San Juan

Chavez Coronado Catherine Dayenara¹; Guamushig Jaque Katheryn Mishel²; Pilco Diaz Janina Gissela³; Rodríguez Plasencia Adisnay⁴

1ea.dayenaracc60@uniandes.edu.ec NURSING, UNIANDES, AMBATO, ECUADOR

ORCID: <https://orcid.org/0000-0001-8437-4947>

2ea.katherynmj00@uniandes.edu.ec NURSING, UNIANDES, AMBATO, ECUADOR

ORCID: <https://orcid.org/0000-0002-1877-654X>

3janinapd30@uniandes.edu.ec NURSING, UNIANDES, AMBATO, ECUADOR

ORCID: <https://orcid.org/0000-0001-9004-1102>

4ua.adisnayrodriguez@uniandes.edu.ec EFERMERÍA, UNIANDES, AMBATO, ECUADOR

ORCID: <https://orcid.org/0000-0002-5293-2817>

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Abstract

Background: Arthroplasty is a treatment for terminal osteoarthritis that frequently affects elderly patients who would be a non-modifiable risk factor. **Objective:** To analyze the post-surgical complications of the elderly patient with total hip arthroplasty at the San Juan Hospital. **Method:** This was a retrospective descriptive cohort study with a sample of 140 surgical patients. **Results:** In the study carried out, it showed us that 59.28% of female patients are the ones who have been mostly operated on for a Hip Arthroplasty, in the same way a considerable increase of 65.71% was obtained in the right site. **Conclusion:** In the elderly patient with Hip Arthroplasty, the aim is to obtain an optimal and timely recovery for the patient, together with family members, and which in turn will improve their quality of life.

Keywords: Arthroplasty, older adult, terminal osteoarthritis

Topic: Postsurgical complications of elderly patients with total hip arthroplasty at San Juan Hospital.

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Introduction

At present, the elderly due to hip fractures and osteoarthritis have allowed to give way to total hip arthroplasty interventions; According to Baldeón y Betzabé states that: Total hip arthroplasty constitutes a high rate of hospital admissions within the orthopedic service, orthopedic injury not only summarizes the aging process and its extreme consequences, but also affects the physical, mental and functional balance of patients. Reason why this procedure has allowed to improve the quality of life, and despite its longevity allow him to fend for himself. (1)

Conduri states that: Among the most affected population around the world are people over 60 years of age and approximately 9.6% of men and 18% of women have this joint disease. As evidenced by the various literature reviews, there is a steady increase in TCAs and it is expected that between 2005 and 2030 the incidence of arthroplasties will increase by 174%. In Ecuador, in the province of Chimborazo, city of Riobamba, a case study was carried out with 57 male patients and 83 female patients, giving a total sample of 140 patients. (2)

On the other hand, Ortiz María mentions symptomatic hip osteoarthritis affects those over 50 years between 3.5 and 5.6% and those over 80 years can reach 10%. Slightly affecting the male sex before the age of 50 and in the female sex it increases since menopause. Polyarticular involvement is more common in women and more severe presentations require prosthetic joint replacement, while unilateral involvement is 55-65% in both sexes."

Therefore, making a comparison of information there is a relationship between age and sex in which they are inversely proportional according to the statistics provided. (3)

For Pages, Iborra and Cuxart refer that osteoarthritis is among the 10 most prevalent disabling diseases in the world; For this reason there is a growing impact on public health that may be critical for health systems in the near future Among the most affected population around the world are people over 60 years of age and approximately 9.6% of men and 18% of women have this joint disease. Severe osteoarthritis is a chronic degenerative condition that causes extreme joint pain, disability and difficulties in performing activities of daily living leading to an alteration of the quality of life.

As evidenced by the various literature reviews, there is a steady increase in TCAs and it is expected that between 2005 and 2030 the incidence of arthroplasties will increase by 174%." The operation of total replacement of the hip then consists of replacing the head of the worn femur with a sphere that is attached to a stem or stem (this is what we call prosthesis), and placing in the cavity of the pelvis (acetabulum) a polyethylene bowl. Both components can be fixed to the bone by a special cement called methylmethacrylate. (4) (5)

Arthroplasty is a treatment of terminal osteoarthritis that frequently affects elderly patients who would be a non-modifiable risk factor and obese patients who would be a modifiable risk factor and we would educate the patient and their families to perform physical activity continuously to avoid overweight since this does not have consequences at the bone level but also at the cardiac level and others. .(6)

It is also considered that total hip arthroplasty has been one of the procedures with fewer complications, the risk that the patient may present after surgery according to the review carried out in 2019 indicates that 42% of patients may present septic loosening, 18% infections, 18% of recurrent dislocation, 16% periprosthetic fractures, osteolysis 15%, polyethylene wear 11%. In addition, it is necessary to take into account the history of the patient since if it is an older adult it would be complicated if it already has a hip fracture as a history, verify if the patient has muscle failure, cognitive, neurological disorders and recurrent falls. (7)

Joint prosthesis (PI) infections affect 0.5-1% of primary implants and 3-5% of revision implants. Although its average incidence has been progressively reduced, it is estimated that the number of PIs will increase in the coming decades, due, among other reasons, to the longer life expectancy, with the consequent increase in the demand for these procedures that restore functional capacity to millions of patients^{1, 2}. The risk is higher for knee (1-2%) than hip (0.3-1.3%) and can reach 9% in other locations such as the elbow

Hip arthroplasty has become a successful surgical procedure in orthopedic surgery, that thousands of hip replacements are performed every year in America, being the most frequent causes of prosthetic replacement osteoarthritis, usually deformities of intrauterine origin such as hip dysplasia, sequelae of Perthes disease, osteonecrosis, displaced femoral neck fractures, inflammatory arthritis. Depending on the pain, joint limitation and functional impotence, the surgeon determines this surgical intervention in the patient when conservative treatment has not given good results. (8)

Among the most affected population around the world are people over the age of 60 and approximately 9.6% of men and 18% of women have this joint disease. Severe osteoarthritis is a chronic degenerative condition that causes extreme joint pain, disability and difficulties in performing activities of daily living leading to an alteration of quality of life (9)

Symptomatic hip osteoarthritis affects those over 50 years of age between 3.5 and 5.6% and those over 80 years of age can reach 10%. Slightly affecting the male sex before the age of 50 and in the female sex it increases since menopause. Polyarticular involvement is more common in women and more severe presentations require prosthetic joint replacement, while unilateral involvement is 55-65% in both sexes. (10)

According to the migration of the femoral head there are 3 radiological types:— Superior displacement of the femoral head: The superomedial is globally the most frequent and predominates in men, with early symptoms and rapid progression, and the superolateral, more frequent in women, is associated with acetabular dysplasia.—

Medial displacement of the femoral head with acetabular protrusion. It is usually bilateral, with predominance in women.—Displacement of the head towards the midline with concentric and homogeneous decrease of the joint space. It is associated with the presence of secondary causes (osteonecrosis, Paget) and forms of generalized osteoarthritis.(10)

Thus, at present, hip fracture in the elderly constitutes a high rate of hospital admissions within the orthopedic service, orthopedic injury not only summarizes the aging process and its extreme consequences, but also affects the physical, mental, functional and social balance that previously prevailed. Hence the importance of paying greater attention to this problem of global scope, since, if hip fractures are not treated in time and in the appropriate way, risks of lung and cardiovascular diseases can occur, not counting infections, thrombosis or hemorrhages that can reach death. (11)

Therefore, it was decided to carry out the following study with the aim of analyzing the postsurgical complications of the elderly patient with total hip arthroplasty at the San Juan Hospital.

Materials And Methods.

In the present research, a retrospective descriptive cohort study was conducted. We included all patients over 60 years of age undergoing CTA at Hospital San Juan, between January 2019 and June 2022. Those with residence in countries other than Ecuador or without contact information in the medical history were excluded.

Data were obtained from the information recorded in the medical history and through informed consent. Baseline assessment and postoperative care were performed from clinical records.

Demographic information (sex and age), clinical history such as comorbidities (diabetes, arthritis/osteoarthritis, neurological diseases), use of acetylsalicylic acid (ASA), date of surgical procedure, hospital stay, type of complication (thromboembolic events, fractures, infection, neurovascular lesions, dislocation or death), time to surgical complication and need for transfusion of blood products was collected. Only deep vein thrombosis and pulmonary thromboembolism were considered as thromboembolic events.

In relation to data analysis, the unit of analysis corresponded to each hip (right or left) submitted to TCA. Qualitative variables were described using relative and absolute frequencies. The statistical analysis of the information was performed Excel.

Results

During the period studied, 140 patients were identified, corresponding to 140 hips submitted to CTA, 83 (59.28%) CTA were performed in women. The age at surgery ranged from 58 to 85 years, with a median of 64 years. 49.16% of patients were 65 years or older at the time of the procedure. Chronic arthropathy (osteoarthritis) was the most frequent pathological antecedent with 29.28%. A greater number of TCAs was observed in the right hip (65.71%) and in all cases the surgical approach was posterolateral, in most cases the hospital stay was longer than 10 days (85.71%) significant data because no patient managed to recover in less than 3 days which brings with it the increase of complications (Table 1).

Table 1. Demographics

Feature	N= 140
60-69 years, n (%)	20 (14.29%)
70-79 years, n (%)	34 (24.28%)
80 years or older, n (%)	86 (61.43%)

*Gender, n (%)**

Men	57 (40.71%)
Women	83 (59.28%)
<i>Anatomical site, n (%)</i>	
Right hip	92 (65.71%)
Left hip	48 (34.28%)

Pathological history, n (%)

Arthritis	41 (29.28%)
Diabetes	16 (11.42%)
Obesity	28 (20%)
ASA consumption*, n (%)	27 (19.28%)
Hypertensive patients	28 (20%)

Hospital stay in days

HD < 3 days, n (%)	0 (0)
HD 3 to 10 days, n (%)	20 (14,28%)
HD > 10 days, n (%)	120 (85,71%)

Transfusion requirement, n (%)

People who did not need transfusion	27 (19,28)
People who did need a blood transfusion	113 (80,71)

*ASA: *acetylsalicylic acid*

In the following table (Table 2) it was possible to group the main postoperative complications, being pulmonary thromboembolism (PET) and deep vein thromboembolism (DVT) the ones with the highest incidence (1.69%), followed by neurovascular lesions in 0.84% and in the same percentages (0.56%) dislocations and infections, it should be noted that despite the complications present in patients undergoing hip arthroplasty, The death of any of them did not have to be mourned.

Table 2. Frequency of postoperative complications

Type of complication	n	Frequency %
PET/DVT *	4	1,69
Neurovascular injury	2	0,84
Luxation	1	0,56
Infection	12/140	0,56
Death	0 /140	0,56

*PET, *pulmonary thromboembolism*; DVT: *Deep venous thromboembolism*.

Discussion

On the other hand, Gómez J. mentions that the elderly population candidate for total hip arthroplasty (TCA) is increasing exponentially in developed countries, due to the prevalence of osteoarthritis, so it is very sensible that these interventions exist worldwide since due to the complications of the development of the disease such as osteoarthritis and that there are operations at the level of developed countries is good for older adults, especially women. (12)

In addition D. Petruccelli speaks that the ATC has been shown to improve pain, mobility and quality of life in patients with coxarthrosis because in this way it helps older adults especially to walk or move on their own and their self-esteem will rise because they will feel independent, this also benefits the relatives of patients with the pathology since they will not suffer from the ignorance of Not knowing how to care for or treat family members. (13)

At the time of collecting the information, it was observed that there is a higher incidence of Hip Arthroplasty. As Begoña Aranda expresses: Incision site care, wound care, wound care with closed drainage, skin care, and drainage care. Among the activities of Villora Fernández who tells us about inspecting the incision site in case there is redness, every 24 hours the incision area will be cleaned with appropriate antiseptic solution, clean the area surrounding any type of drainage and maintain the position of said tube so that it is permeable, the bedding will be kept clean, dry and without wrinkles, excessive moisture caused by perspiration, wound drainage and fecal and urinary incontinence will be eliminated and the drainage will be removed 48 hours after the intervention, by medical prescription. (14)(15)

The risk that the patient may present after surgery according to the review carried out in 2019 indicates that 42% of patients may present septic loosening, 18% infections, 18% of recurrent dislocation, 16% periprosthetic fractures, osteolysis 15%, polyethylene wear 11%. Consequently, the role played by the nurse in the postoperative recovery process is important, since, by providing an effective direct care plan, we guarantee that there are no complications, carrying out the pertinent follow-ups to avoid future complications. (16)

Conclusions

According to the research carried out we can say that arthroplasties are performed mostly in female patients because in each delivery she loses calcium in the bones, increasing post-surgical complications, highlighting PET / DVT and wound infections so that identifying these, a nursing care plan can be implemented will help reduce these complications achieving constant vigilance before the different signs of alarm and will allow an optimal and timely recovery of the patient, together with the relatives.

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