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Research Article

Results of Surgical Treatment of Hip Fractures. Cienfuegos, 2016-17

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Abstract

Introduction:

The capacity to walk around is the main expected result from the surgical treatment, what is translated in a better insertion in society and principally, with healthy lifestyle.

Objective:

To show the result of the surgical treatment of hip fractures. Cienfuegos, 2016-17.

Methods: It was carried out an observational, descriptive, longitudinal, prospective study, with the patients who admitted with hip fracture, from January, 2016 to December, 2017. The main variables were described, from the moment of the fracture until one year later.

Results: The 80-89 years old group showed 44.2%, the males prevailed with 61.8%, 59,8% of them suffered from three or more associate illnesses, the extracapsular fractures prevailed with 111 patients, with 68,4%, 57.4% of patients was in the group 1-2 of the American Society of Anesthesiology, a surgical treatment was done on 33.9% of them in 48 hours. There was 13.3% of orthopedic complications, with sepsis as the most frequent one; 31% achieved a good ambulation after surgery in the 3 months of treatment, and 16.6% of these patients died; the bronchopneumonias caused the highest number of deaths.

Conclusions:

In the study a reincorporation was evidenced to its state pre he/she fractures from 82.7% to the year of the surgery. It is important to highlight the correlation among age, complications, and the surgical delay, which influenced the final outcome.

Keywords: hip fracture; hip surgery; fragil elderly

Introduction

The bibliographical review reveals the existence of numerous publications that analyze the problem of hip fractures, retrospectively trying to identify predisposing factors to suffer this pathology, as well as those that modify its evolution, vital and functional prognosis.

In practice, very old people have the highest rates of use of health services, because there is an increase in morbidity due to chronic non-communicable diseases (cardiovascular, neoplasms, neuropsychiatric, etc.), which create serious limitations in the patients. Today, people die later and also more slowly, with more or less pain, but more alone, better technically assisted, but less accompanied [1,2].

The percentage of this group, called by some the elderly, requires a multidimensional and multidisciplinary approach and area of attention, in its various biological, psychological, socioeconomic and functional aspects [3,4].

Cuba presents a progressive population aging, with a marked increase in recent years. It is expected that by the year 2020 around 400,000 Cubans will

have reached the age of 80. It is estimated that the percentage of elderly will reach 25% by 2025, at which time Cuba will be the oldest country in Latin America and by 2050, one of the oldest in the world. There are currently more than 18,000 hip fractures throughout the country and around 350 in this province [5,6].

During the last decade, different clinical guidelines have been appearing, with recommendations for the management of patients with hip fracture. This article presents a summary of the most important recommendations included in these guidelines, with a comparative perspective between them, with the aim of increasing their dissemination and facilitating decision-making for physicians who care for this type of patient [7, 8, 9].

Epidemiological studies show that the risk of dying increases in the 6 to 12 months after a hip fracture. In elderly patients, the mortality rate ranges from 14-36% one year after the fracture and is associated, according to different studies, with systemic disease that is not adequately controlled, with age and sex (women survive longer), and with institutionalization [10, 11].

The most frequent causes of death in elderly patients with a fracture of the proximal end of the femur are: pneumonia, electrolyte imbalance, cerebrovascular accident, heart failure, pulmonary thromboembolism, gastrointestinal bleeding, and any other general medical complication in the immediate postoperative period. a mortality factor.12 However, many patients wait for more than 24 hours, after admission to the hospital, until their medical conditions are optimized before surgery or until the surgeon, geriatrician or anesthetist decides on the intervention. If the patient's medical condition is unstable, then operative action should be delayed until the patient is at his most stable possible level.

For the majority of these patients, optimal treatment requires good surgical management of the hip fracture. Several studies have shown that delays in the same are reflected in increases in morbidity and mortality in these patients. On the other hand, the high mortality, particularly in the first 3, 6 and 24 months, is probably due to the combination of trauma, major surgery in the elderly with concurrent medical problems, and a low physiological reserve [13, 14,15].

The ability to walk is the main result expected from surgical treatment, which translates into a better integration of these patients into their social environment, and above all with validation that ensures a dignified quality of life [16, 17].

The purpose of this study was to determine the result of surgical treatment after one year of patients operated on for hip fracture at the Hospital General Universitario "Dr. Gustavo Aldereguía Lima" of Cienfuegos, in the period January 2016-December 2017.

Objectives

General: To determine the results of surgical treatment in patients operated on for hip fracture in the province of Cienfuegos from January 2016 to December 2017.

Specifics:

1- Characterize the patients admitted for hip fractures in 2016.

2- Evaluate the results of the processes applied in the pre and post operative phases of the surgical treatment.

Methods

Study carried out in the Orthopedics and Traumatology Service of the "Dr. Gustavo Aldereguía Lima University Hospital" in the province of Cienfuegos, in the years 2016-17. It was classified as an observational, descriptive, longitudinal, prospective case series study. The universe was made up of 162 patients admitted in 2016, who attended a minimum of 3 scheduled consultations. The main study variables were: age, sex, type of fracture, comorbidity, applied treatment, complications and final results. A complete, conventional clinical history was prepared for all patients and in each case a form was applied, where the necessary data was reflected to give output to the proposed objectives (Annex 1).

The pre-fracture general state was assessed using the American Society of Anesthesiology (ASA) scale, which establishes a level of surgical risk (1-4). We preferred to use this vital risk scale instead of studying the different comorbidities because it provided a level objective severity with a direct influence on surgery, and validity according to the KATZ scale. (Annex 2) totally independent (A), partially independent (B, C, D, E) and totally dependent (F, G). The type of fracture was decided to be classified as intracapsular and extracapsular to simplify the treatments applied to each of these lesions. Functional status was assessed based on the patient's ambulation results: Good (walks without support), Fair (walks with some technical help) and Poor (does not walk).

The care of these patients was carried out directly by a work group previously trained in the program, with homogeneous criteria and which included specialists from Orthopedics and Traumatology, Geriatrics, Cardiology, Anesthesiology and Rehabilitation; as well as trained nursing staff. All cases were operated on by Orthopedics and Traumatology specialists or by residents under their supervision, generally spinal anesthesia was the most frequently used.

Techniques and procedures

For the study proposal, a hip fracture was defined as a fracture occurring a few hours before admission, without taking into account any previous hip fracture. A secondary hip fracture was considered to be any fracture that occurred during the follow-up period.

Upon arrival at the emergency department, after a physical examination, X-rays of the hip or bone pelvis were indicated for a definitive diagnosis, indicating a preoperative study to be evaluated by the Geriatrics and Anesthesiology services, which decided the aptitude for surgical intervention.

All admitted patients received antibiotic prophylaxis before, during, and after (if it lasted >1 hour) the intervention: Cefazolin 1 gr i.v. and Vancomycin 1 gr. i.v in patients allergic to β-lactams. Fraxiheparin-type antithrombotics were also administered. In addition, non-opioid analgesics were prescribed during their pre- and postoperative stay.

For the collection of the information, a questionnaire created for this purpose was elaborated, in which the information about the variables prior to the moment in which the fracture took place, as well as after it, was collected. It was performed within a 24-hour period after admission to the hospital. It was obtained through a direct interview with the patient himself whenever his mental faculties allowed it, otherwise the collaboration of the relatives or the staff of the institutions where they were found was used (Annex 3).

In the cases that survived the hospital stay, survival follow-up periods were established. The relatives or companions of each patient were instructed in a series of verbal and written recommendations about all the care that should be followed at home with these patients. These included a first review 15 days after the fracture occurred, one month, 3 months, 6 months, and one year. Therefore, each patient was followed up for a maximum period of one year and for whatever reason they could not bring the patient to the consultation, the relatives and/or caregivers came to report their evolution. In the cases in which a torpid evolution was detected, it was immediately reassessed by the group, to determine new therapeutic behaviors. Statistical analysis.

Frequencies and percentages and the arithmetic mean were used as main statistical measures, the results were analyzed in Microsoft Excel and SPSS 21 and represented in tables.

Results

During the year 2016, 162 hip fractures were admitted whose study variables are reflected in Table 1, in Table 2, it was observed that age was more represented in the age group of 80-89 years with 48.8% of the total of patients (minimum 60 and maximum 102 years), the male sex predominated (61.8%) of the cases. 59.8% of these patients had more than one major pathological history (97/162). 54.9% of these regularly consumed more than one drug and 10 of these had a previous contralateral fracture. 57.4% of them

corresponded to a physical state classification according to ASA 1-2. 58.2% of the cases showed functional validity A according to the KATZ classification.

Table 3 shows that in 111 cases (68.4%) they presented an extracapsular fracture. 66.1% of the patients received surgery before 48 hours with a surgical time X=1 hour. 98% received antithrombotic prophylaxis and 97% antibiotics. The most used surgical treatment was osteosynthesis and within this the placement of AO blades and screws in 63.9% of the patients. Partial arthroplasties were placed in 58.8% of the carriers of intracapsular fractures.

Table 4 highlighted the incidence of (medical) complications, where the early ones reached 18.5% and the late ones 6.7% of the total cases. 13.3% of the patients presented some local (orthopedic) complication and within this surgical wound sepsis (4.9%) during the course of the study. Mortality of 16.6% was recorded, with the highest number occurring in the first 3 months (44.7%) after the intervention. In relation to their ambulatory capacity, 45.6% of the patients obtained a fair result, since they needed some type of technical assistance to move around.

Table 5 shows the different techniques used in fracture fixation and the average time to ambulate. The PFN and DHS systems stand out with 100% and 88.4% respectively in the first 3 months after their implementation.

Discussion

Hip fracture is one of the most frequent traumatic injuries faced by orthopedic surgeons, since they can cause devastating consequences and are associated with high morbidity and mortality, which causes patients who suffer from it, a reduction in their quality of life. life. Therefore, in the course of history, several surgeons were in charge of investigating and introducing various treatment methods or techniques with the purpose of improving said quality of life.

The main objective of this study was to know the result of surgical treatment, with the different techniques available to us one year after surgery. Since it has not been possible to determine through bibliographic reviews what is the optimal percentage of patients who must recover the level of walking after the fracture. All this because other studies include different population groups and methods to measure this capacity.

Age

The results showed that the age group of 80-89 years obtained an incidence of 44.2% followed by those of 70-79 with 33.3%, Roberts KC.18 reports an age X=80 years in his 2015 study, being consistent with what was reported by other authors [5, 11, 19].

Sex

The male sex predominated with 61.1% of the total patients, not coinciding with other references consulted, with a ratio between the sexes of 2/1 for the female [20, 21, 22].

Comorbidity

Most authors agree that the previous general state of patients with hip fracture is the main risk factor for mortality. The best assessment of the chronic general state is obtained by counting the medical diagnoses. Although to a lesser degree, in this study they participated in the final result, 59.8% of these patients presented more than one major pathological history and 54.9% of these regularly consumed more than one drug. [18, 19]

Pre-fracture functional status

This study showed a higher incidence in groups 1-2 of the ASA classification, values obtained through the Katz index were available as a parameter to measure the independence of the patients who attended the service while in A (58.2%) the largest number of patients, that is, they were independent in gait and after a year of evolution, 46.5% of this parameter was reached, data that agrees with some consulted works [23, 24, 25].

fracture type

Publications referring to this topic were found, which show significant differences between intra-extracapsular fractures, although not always in relation to the same variables or type of these. It is stated that intracapsular fractures have a better prognosis, a possible explanation for this would be that they have lower mortality because they occur in younger patients and that pertrochanteric and subtrochanteric fractures produce a significantly greater decrease in hematocrit levels than subcapital fractures,26 , 27 In the present study, the type of fracture with the highest incidence was extracapsular with 68.4% of the total, relating these by some authors with the group of advanced ages and sex.

Preoperative delay

The delay in surgery once the patient is admitted to the hospital is one of the most controversial terms today. In patients who are clinically stable, operative repair should proceed as soon as possible.

In published articles on the subject, patients who underwent early surgery (<48 hours) had lower complication rates and better long-term performance status than those who underwent delayed surgery [14, 28, 29]. In contrast to earlier studies recently in Articles have been published in the literature that do not observe an increase in mortality at the expense of the delay of the intervention when adjusted with other predictive variables, especially age and comorbidity30 reflected in this study.

Prophylaxis

In reviewed articles, patients who would undergo hip fracture surgery are routinely recommended to use low molecular weight heparins, since this is associated with a high incidence of venous thrombotic disease. In the present study, they received prophylaxis. antithrombotic in 98% of those operated [31, 32, 33].

Complications

The complication rate in hip fracture surgery is generally high and reinterventions are frequently necessary,34 as Christopher P.35 considered post-fracture complications as the most powerful predictive parameter of mortality. The present study was limited to the description of the most frequent medical-orthopedic complications, which turned out to be arterial hypertension, respiratory infections and surgical wound sepsis.

Mortality

The cumulative survival function for patients who have suffered a hip fracture falls precipitously after the fracture but around 6 months and approaches that of the reference population to practically equalize around a year [36, 37].

Miller38 indicated a decrease in survival in the first 8 months after the fracture. Analyzing mortality with the type of fracture and the effects of the time of surgery, Grimes et al.39 report that they are predictive factors of mortality. However, in the present study the most frequent cause of mortality was bronchopneumonia, and thromboembolism. pulmonary.

Ambulatory capacity

ACCORDING to studies carried out, it is shown that the increase in the percentage of patients who recover the ability to walk at 3 and 6 months has been achieved with early surgical treatment accompanied by mediate pre- and post-operative rehabilitation. With a shorter hospital stay, these patients are referred to specialized rehabilitation centers accompanied by training for the family and caregivers. This study found that 45.6% of the patients in relation to their ambulatory capacity obtained a fair result, since they needed some type of external help to walk. An important group of authors agree that throughout the treatment of hip fractures it is vital to reduce the patient's bedridden as much as possible, being a strategy to be shared with family members and companions so that the patient recovers the functional state or the closest prior to the fracture, in the short and medium term. [17, 40, 41].

Conclusions

In the study it was evidenced that age, the delay in the start of surgical treatment and complications in general influenced the final result of surgical

treatment, this showed a reincorporation of 82.8% of the total number of those operated on to their previous or close validity. to the pre-fracture, agreeing with those reported by other authors.

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