

Review Article

Population Aging and Hip Fracture

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Abstract:

Aging is not a phenomenon exclusive to modern societies, it has been present in all stages of social development and has always been of interest to philosophy, art and medicine. However, during the past century, we are witnessing a unique situation: more and more people have passed the beginning of what man has called the stage of old age and the privilege of some has been transformed into an opportunity for many; This made the aging population a challenge for modern societies. It would suffice to point out that from the beginning of human history until the beginning of the 20th century, human beings achieved an average lifespan of 47 years and from then until today this average increased by almost 30 years and is considered one of the achievements. most important of humanity. (1)

Introduction

Aging is not a phenomenon exclusive to modern societies, it has been present in all stages of social development and has always been of interest to philosophy, art and medicine. However, during the past century, we are witnessing a unique situation: more and more people have passed the beginning of what man has called the stage of old age and the privilege of some has been transformed into an opportunity for many; This made the aging population a challenge for modern societies. It would suffice to point out that from the beginning of human history until the beginning of the 20th century, human beings achieved an average lifespan of 47 years and from then until today this average increased by almost 30 years and is considered one of the achievements. most important of humanity. (1)

Old age or population aging is nothing more than a stage of life, which does not determine a break, in a period of time, or the arrival to a terminal stage, it is part in which the human being continues to be integrated into the society that It begins at birth until death and although an attempt has been made to stop it, there is no technology capable of doing so that will keep the human body alive forever.

It consists of accumulated cell and tissue damage that can only be delayed. (2, 3) Statistics from the United Nations report that in the 21st century, it begins with 600 million elderly people, with projections until 2050 this will triple. (4) People aged 85 and over will be double the current number by 2050, with a consequent physical, mental and financial crisis and a much greater demand for society and the family. (5)

Latin America and the Caribbean, according to UN demographic studies, will become the oldest developing region on the planet. (6) Cuba will rise by 2050 as the oldest

in the area, in the Villa Clara province with a rate of 20.4% in 2016, Sagua with 21.7% higher than the provincial average. (6)

The increase in hip fractures in older adults constitutes a health problem worldwide and in Cuba, associated with multiple factors inherent to the age reached, such as the environment, socioeconomic, political, such as migration and biostatistical nature, that we will explain in more detail in the development of the research, with which it is intended to argue the impact of hip fracture and its relationship with the aging population in today's society.

Developing

Due to physiological changes in the body and the degeneration of tissues in the medium or long term, with a consequent decrease in minerals such as iron, calcium and vitamins, age is an important risk factor for hip fractures. (7)

The liver and kidney clearance fusions are considerably affected, producing deterioration in the pharmacodynamics of the drugs, with an increase in the half-life in the body, for example, tricyclic antidepressants and some neuroleptics, leading to adverse events, others such as hormonal changes. accelerated in the female sex, due to the stop of hormonal production by the ovaries, leads to a negative effect on the absorption of the minerals that nourishes the bone such as phosphorus and calcium due to the high action of vitamin D, it interferes in the absorption of these minerals and their inclusion in the bone.

Chronic diseases such as diabetes, hormonal diseases such as thyroid disorders and toxic habits - poly medication, smoking or alcoholism - cause a decrease in some physical capacities (8), which together with acuity Visual and reflexes lead to

increased susceptibility in the elderly to falls, which produce significant traumatic injuries to the skeleton, including fractures of the hip area. Women are also influenced by the geometry of the pelvis, femur and osteoporosis secondary to menopause. (9)

Risk factors or predisposing signs for this condition can be biological, lifestyle, acquired habits, lifelong medications such as the use of glucocorticoids that increase bone fragility, as well as other medications such as anticyclotics; antiepileptics, antiparkinsonianos and proton pump inhibitors, which increase the risk of accidents and hip fracture.

The preventive or prophylactic actions that can be established in order to avoid hip fractures in elderly patients are those aimed at preventing osteoporosis, exercises, healthy living and supplementary drugs from the pharmacological group of Bisphosphonates are used within these Andronates and Zolendronic Acid, alone or in association with calcium plus vitamin D (10,11,12). Intramuscular Ergocalciferol is used in Cuba. (13)

Other procedures such as eliminating architectural barriers, the use of handrails, light inclined planes, wheelchairs, canes, everything that will facilitate daily activities at home and even on the street, together with the support of personnel by social assistance, including to adults over 65 who live alone. (14)

When analyzing hip fractures, this is conceptualized as the rupture of part of the articular proximal femur, with the pelvis in the acetabulum, there is an intracapsular and an extracapsular portion.

Hip fractures are anatomically classified as intracapsular, and can be located in the epiphysis or femoral head, in the neck or subcapitals (below the head), in the transcervical portion of the neck, and at the base of the neck-cervical.

The rest of the fractures are extracapsular, affecting the region of the trochanters. The intertrochanterics that cross from one trochanter to the other in their dividing line. The pertrochanterics break both trochanters from major to minor and the subtrochanteric immediately below the trochanter.

This classification is generally simple, we state it to refer to the complications that may occur in its evolution and treatment, which is eminently surgical. The conservative can only be tried in surgical risk patients, with a grade I intracapsular fracture - where the fracture line does not pass from one cortical to the other. A Ducroquet appliance or derotator boot can be worn for a month, and will be evaluated with X-rays.

In the case of extracapsular, the treatment is more complicated since they are major operations with prolonged surgical time, consequent blood loss, those that require transfusions. In addition, the patient is subjected to the risk of dehydration, the use of prophylactic antibiotics and trombo-prophylaxis, all this coupled with the length of hospital stay.

Economic, social and family costs of the care of patients with hip fractures:

The possibility of living a greater number of years is a gift of life, the result of the development achieved by the country (15). Hip fracture worldwide is considered one of the most common disabling injuries with a predominance in women

aged 60 years or older, with a high mortality, considered a cause of accidental death in the elderly (16) and the most common cause of hospitalization in the orthopedic and traumatology rooms.

In developed countries the cost of the operation maintains high figures, to this figure is added the possible post-surgical complications, pneumonia, deep venous thrombi, which increases the costs of hospital care. Other post-surgical costs are added for cognitive deterioration, pressure ulcer and those related to rehabilitation.

Studies in Europe refer to a cost of 25 million Euros in medical and health care without taking into account family costs and health transport. for one year. The social and family cost for care at home, transportation in medical transport to consultations, work licenses and in the case of elderly people who live alone are assumed by social assistance. (17)

However, in developing countries such as Mexico, in 2000 the incidence was seven percent higher compared to other fractures of the elderly, increased by 12.5% by 2020 and is estimated towards the 2050 is 28.0%, all this coupled with the increase in life expectancy over 80 years (18). Hip fractures can occur in 9 out of 10 elderly people over other fractures of the human skeleton. (19)

Studies carried out in Chile in a public hospital indicate it as a very serious consequence of bone fragility due to osteoporosis with a high incidence and social, economic and functional impact. (20) The own changes in people who reach 60 years or more make them more vulnerable to complications of their health. (twenty-one)

In Cuba, although the health service is free, the surgical treatment of patients with hip fractures has a high cost, a study by a Cuban journal of rheumatology, highlighted that approximately 12,000 fractures occur per year, which will increase with the rise in life expectancy.

The measures in hospital care aimed at a speedy recovery and lower costs after surgical treatment are aimed at mitigating the influence of chronic diseases that they suffer.

According to Cuban authors, 82.2% suffered from a non-communicable chronic disease, of them heart disease with 18.2%, of diabetics 18% for malignant diseases, such as lung, bronchial and prostate cancers, which increase with the age. (22)

A list of prophylactic measures in orthopedic and trauma wards and on the day of the operation, such as the use of pre-trans and postoperative antibiotics, to avoid postoperative infections, eliminate the use of bladder catheters to prevent urinary sepsis. , prevention of cerebral hypoxia that can be related to the appearance of delirium, by administering oxygen in the room upon admission, prevention of confusional alterations with prior consultation by the team made up of a psychiatrist, clinical and orthopedic geriatrician, prevention of deterioration of the cardiovascular conditions derived from immobility that increase with the days of waiting in the room until the surgical treatment, in addition changes in hydration can result with decreased cardiac output, oxygen uptake and increased cardiac frequency, this is resolved with a check of vital signs before the operation. (2. 3)

In the rehabilitation period when the patient is at home by the basic work group guided by a program for the elderly, geriatricians use a Baethel scale to assess the level of independence and activity of the patient when performing daily activities in the home.

For deterioration of the cognitive level that evolves with the presence of insomnia, anorexia, somatic complaints, confusion, a program of physical activity and rehabilitation is recommended.

There are differences in health actions according to different political systems, different geographic regions, social differences, as well as differences in access to health services (24).

Care for the elderly, susceptible to disabling diseases with a high rate of morbidity and mortality such as hip fracture, create a whole social care program that is first aimed at specialized care and rehabilitation aimed at achieving full useful social integration that raise the self-esteem of these people and achieve the personal well-being of society and the family.

Conclusions

Hip fractures are one of the health problems closely related to the aging population.

The economic, social and family costs of caring for patients with hip fractures vary considerably between developed and developing countries.

In Cuba, the surgical treatment of patients with hip fractures has a high cost, however, medical and rehabilitation care is free, marked by a program of social and comprehensive care for the elderly.

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Conflict of interests

The authors of this article declare that they have no conflict of interest whatsoever with the objectives of the research.

Declaration of the personal contribution of each author to the research

The authors of this article participated in the diagnosis, treatment, study design, and writing of the first version, as well as the final version of the manuscript in equal parts.

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