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Opinion

Orthogeriatric units. They are really necessary

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Abstract

Core tip

The fragility hip fracture orthogeriatric co-management model of care, integrated in specific functional ortogeriatric units, undoubtedly benefit elderly patients with this type of fracture, improving care standards of quality. The authors of this editorial recommend this multi and interdisciplinary approach to improve both intra and extra hospitalary care of patients with fragility hip fracture. The authors invite all the actors involved in this process to adopt a positive disposition to create, endow and develop ortogeriatric units.

Keywords: Fragility hip fracture; Morbidity; Mortality; Ortogeriatric comanagment care; Ortogeriatric unit

Introduction

The ratio of people over 60 years of age has been increasing continuously throughout the world and will continue to do so in the coming decades, estimating that this population will reach 2,000 million in 2050 [1]. With this rate of aging, an increasing number of individuals with involutive processes related to age will become vulnerable to falls and geriatric traumas. This fact will indirectly increase the number of low impact fractures, the so-called fragility fractures.

It has been calculated (dataof year 2000), that more than 9 million fragility fractures occur each year worldwide (1,6 million hip fractures, 1,7 million distal radius and 1,4 million of symptomatic vertebral fractures) [2]. An already classic scientific paper, that infers a future projection of the epidemiological data existing at the time of its publication, have estimated that hip fractures would also increase in these coming decades, quadrupling their number in 2050 until reaching 6,26 million [3].

Regardless its obvious epidemiological relevance, this type of fractures, physiopathologically related to a decrease in bone strength (osteoporotic fragility fractures), has generally shown to have significant consequences on health and quality of life related with it. Specifically, hip fragility fractures (HFFx) are characterized by an important clinical and functional repercussion, with a high morbidity and mortality both during hospitalization and after discharge time [4,5]. These circumstances imply a considerable increase of medical care necessities, and a health and socioeconomic burden in all Western countries, becoming a public health problem for all health systems in the world [2].

The high age of patients, the rate and type of associated comorbidities (malnutrition, diabetes mellitus, arterial hypertension, chronic renal failure, heart failure, ischemic heart disease, cerebrovascular events, etc.), the high rate of medical (hydroelectrolyte alterations, anaemia, delirium, urinary infection,

decubitus ulcers, etc.) and surgical postoperative complications (delayed consolidation, secondary displacement, failure of osteosynthesis, peri-implant fractures, etc.) [4], the impact they have on patient mobility, the high degree of disability and functional dependence that can induce (most patients do not recover the functional capacity they had prior to the fracture, 20% of them requiring help for prolonged periods of time) and an increase in institutionalization rates, clinically characterize HFFx.

In addition, more than 90% of patients with this type of fractures have higher mortality rates than the general population, even with optimal care and management [6]. Compared with other osteoporotic fractures, the HFFx has specifically higher mortality rates (2-7% during the acute in hospital phase, 6-12% during the subsequent month and 17-33% at the end of the first year), being normally higher in males (32-62% per year) than females (17-29%) [7,8].

All these characteristics of the HFFx suppose a high pre and postoperative care load for services involved in their treatment (anesthesiology, orthopedic surgery, geriatrics / internal medicine, rehabilitation, nursing, social work, primary care, etc.), burden that is accompanied by a high use of health resources and a high cost per process [9]. To these health-related costs, which are mainly direct and linked to the first hospital admission [9], the indirect family and sociosanitary costs that patients with HFFx induce should be added. All of them have a general and deep economic impact on national health services.

Consequently, HFFx treatment is an exceptional challenge for all these systems, becoming necessary to establish specific clinical, structural and social strategies that optimize the models of care of these patients.

Study Analysis

Regardless the mortality rates of hip fracture have remained practically stable during the last decades (despite the improvements in medical, anesthesiological and surgical fields) it has been detected that up to 57% of the deaths related to HFFx could be considered potentially avoidable with an adequate model of care [10]. Early surgical treatment of the fracture (24-48 hours), availables operating theatres and the establishment of Orthogeriatric Units (OU), that facilitate the immediate stabilization and the subsequent medical-surgical management of the patients, are three actions that offer scientific evidence to obtaining good functional and clinical results [11-13]. In this way, some studies have shown a clear decrease in postoperative complications and mortality after their implementation .

The OU, as a model for multi, interdisciplinary and inter-levels management of patients with hip fracture (orthogeriatric co-managed care or orthogeriatric shared care) represents a clear advance in this aspect. Since its implementation as a healthcare model worldwide these OU have shown in different publications and metanalyses not only improve functional and clinical results, but to reduce the complications and mortality of patients with HFFx [17].

From the functionality point of view, orthogeriatric co-managed care (OGCMC), compared to other care models has shown to improve the results related to mobility [18-20] and functional recovery [21], with a higher percentage of patients who returned to their home after hip fracture and an improvement in their perceived quality of life [22].

From the complications standpoint, this model of care has also shown in different publications significantly reduce the rate of medical complications (nutritional problems, delirium, urinary tract infections, etc.) and the necessity to transfer patients to intensive care units during admission [23]. OGCMC has demonstrated as well to reduce the number of hospital readmissions and institutionalizations related to complications of HFFx [24]. From the mortality point of view, the OGCMC models have shown to reduce both the risk and the HFFx mortality rate at 30 days [21].

And from the economic impact point of view, the implementation of OGCMC models based on OU have demonstrated (data from national hip fractures registries of different countries and different scientific works) to reduce the admission time and decrease pre, postoperative and total length of stay, as well as the average length of stay, which makes it a highly effective and efficient model of care of patients with HFFx [25,26].

OU and Fracture Liason Service (FLS) integrated mixed models have shown in recent works not only improve clinical and functional results and decrease complications and mortality of patients with hip fracture, but also improve aspects related to the risk of falls [27] and the diagnosis and treatment of osteoporotic disease associated with HFFx, with higher rates of secondary osteoporosis screening and DXA requests, and a greater proportion of patients receiving antiosteoporotic treatment for secondary prevention of new fractures. These mixed OU-FLS models have shown in very recently published works to be also cost-effective [28].Therefore, both the International Osteoporosis Foundation (in its recommendations to mitigate the gaps related to the treatment of osteoporotic fractures in general) [29] and several international clinical practice guidelines [30-32], have recommend this type of mixed models as a way to manage patients with HFFx and other mayor osteoporotic fractures.

Perspective

Consequently, and in conclusion, the OGCMC-based care models on OU structure, with a beyond the hospital configuration that broadens the benefits of inclusive geriatrics, seem to facilitate early medical assessment of patients with HFFx and provide rapid patient optimization for surgery, improve postoperative care, decrease the rate and complexity of complications and facilitate a

rehabilitation early planning. All these items are related to a rapid recovery and a reduction in-hospital mortality without increases the average length of stay [22].

However, it remains to be clarified several problems related to the model itself and the transverse protocols associated with it, as well as the type and efficiency of the programs that should be used in patients with significant cognitive impairment, institutionalized or in convalescent units or in post-fracture home rehabilitation [33], being necessary a greater scientific support to consolidate the evidence in these aspects.

Despite this, for the authors of this and other similar recently published editorials [34], the existing results indicate clearly that OGMC-based models on OU structure undoubtedly benefit patients with HFFx, improving the quality standards of care. For this reason, we recommend this multi and interdisciplinary approach for the intra and extra hospitalary care of patients with this type of fractures, inviting from here to all professionals, services and hospitals, health services and governments to reflect on it and to adopt a favourable disposition to the creation, endowment and generalized development of this type of Units.

Author contributions

Mesa-Ramos M, Caeiro-Rey JR conceived the editorial and drafted the manuscript; all the authors approved the final version of the editorial.

Conflict-Of-Interest Statement

The authors have no conflict of interest to declare.

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