Emergency treatment of proximal femoral fracture within 48h: The Umbria Region experience

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Objective: To study the main aspects of osteoporotic emergency fracture of the hip in the Umbria Region in the years 2006-2011.

Methods: The study was conducted from January 1 of 2006 to December 31 of 2011, and included only patients over 49 years of age. Patients who did not habitually reside in the region were excluded. They were collected in each based on the following data: age, sex, place of residence (urban or rural), time of the year, fractured side, type of trauma, history of fracture contralateral and perioperative mortality.

Results: From 2006 to 2011, a progressive increase in the number of femoral fracture admissions in regional hospitals was observed, equal to 4.73% per annum. The incidence went from 6.8 to 8.1 for 1,000 ultra-65th residents. The most affected age groups are those between 75-84 years and 85-94 years.

Conclusions: The epidemiology of osteoporotic hip fracture in the Umbria Region follows a pattern similar to that of other Italian regions. The in-hospital mortality of these patients is partly determined by age and number of complications they suffer during admission. The impact of economic resources on patients who break the osteoporotic hip justifies the implementation of programs for the prevention of osteoporosis and fractures.
well as through the diagnosis of the units of traumatology of the care centers to acute patients of the Umbria Region.

All operated patients had been identified in the verification of the diagnosis of admission and high (in particular they accounted for 97% of the total the same). The following data were collected from each patient: age, sex, place of residence (medium rural or urban), time of year, type of fracture, fractured side, type of trauma, history of contralateral proximal femoral fracture and mortality perioperative. In no case was there a bone lesion focal area underlying the fracture, such as metastasis, of Paget or others[3-5]. The analysis included only patients over 49 years.

The patients with non-resident hip fractures habitual in Umbria were not included in the study. Fractures were classified as cervical and trochanteric. The mortality perioperative period was defined as that produced during the period of hospitalization. Information on the population of Umbria is obtained from the National Institute of Statistics. The statistical analysis was performed with computer support (Sigma and Horus Hardware)[6-8]. The results are expressed in the form of Mean±SE. For the assessment of differences Student’s t-test was used, comparing percentages, analysis of variance and test of c2, depending on the number and characteristics of the variable to be studied. They are considered significant P-values less than 0.05.

3. Results

From 2006 to 2011, there was a progressive increase in the number of femoral fractures in regional hospitals, which is 4.73% per annum. The incidence went from 6.8 to 8.1 for 1,000 ultra-65th residents. Ultraaphytes account for 93% of femoral fractures. The most affected age groups are those between 75-84 years and 85-94 years (Figure 1). In 2011, 1,699 patients aged 65 years or older were hospitalized for femoral fracture. In 2011, 91.9% (n = 1,562) of fractured females residing in ultrafood was surgically treated: 204 (13%) within 24 hours, 520 (33%) within 48 hours, the remaining 838 cases in a time between 3 and 20 days from hospitalization (Figure 2). The treatment or conservative was reserved for 8% of the females fractured [9-10].

The waiting time for access to surgery remained basically stable over the period 2006-2011, which corresponded to 3.47 days and 3.88 days (Figure 3).

In the same period, the average duration of hospital stay has increased steadily, from 10.86 days in 2006 to 11.60 days in 2011, while intraospedal mortality (total and postoperative) remained substantially overlapping, respectively 2.5% and 1.7%, in the same period (Figure 4).

There were no significant differences between the incidence of fractures in the rural and in the urban environment.

The most frequent type of fracture corresponded to trochanterism (60% in women and 55% in men). The side that fractured most frequency was the left (61% in the women and 58% in males).
5. Conclusion

Surgery should be performed quickly in clinically stable subjects in order to reduce the preoperative waiting within 24-48 hours. In ensuring timely access to the intervention, it is recommended to examine the organizational factors related to this specific process and outcome. The possibility of early intervention requires the availability of operating rooms, surgical and anesthesiologic staff, separate paths between traumatology and election interventions. The hospital organizational model, prepared by companies in agreement with the multidisciplinary team, should be aimed at minimizing cases of delayed intervention for non-clinical reasons.

Fracture surgical stabilization represents the procedural standard for femoral fracture in the elderly[11-12]. The aim of the surgery is to achieve a stable fracture synthesis to allow a rapid recovery of the ability to walk with load or to return to levels of autonomy and quality of life pre-existing to the traumatic event. Orthogeriatric evaluation and clinical patient stabilization are paramount and should facilitate access to surgery within 24-48 hours[12].

The rapid recovery of mobility after surgery is a pivotal point of the elderly patient’s pathway with femoral fracture. Practically 90% of all fractures of hip seen in a hospital are attributable to osteoporosis. Osteoporotic hip fracture is a process related to aging and, in large part of published studies to date, it has been communicated an exponential increase in incidence of this fracture with ages 5-9,27. In the present study has been proven which doubles the incidence for each age group (5 years) from the age of 75 years13. The incidence of hip fracture in Umbria is similar to that of other Italian regions[14-24].

Within the world geography, the incidence of osteoporotic hip fracture in this region and in general in Italy25-34, is well below the reported for the countries of northern Europe and Anglo-Saxons, and approach to that presented by other countries European countries.

Regarding sex, the hip fracture is more frequent in women than in males. There are very few populations in which an inverse relationship is observed [35-45].

The epidemiology of osteoporotic hip fracture in the Umbria Region follows a pattern similar to that of other Italian regions. The in-hospital mortality of these patients is partly determined by age and number of complications they suffer during admission. The impact of economic resources on patients who break the osteoporotic hip justifies the implementation of programs for the prevention of osteporosis and fractures.

Conflict of interest statement

The authors report no conflict of interest.

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