SEASONAL TRENDS IN THE INCIDENCE OF HIP FRACTURE IN CATALONIA 2003-2014

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CONTENIDO

The incidence of hip fracture (HF) is higher in older people, so the total number of these fractures is increasing due to the progressive ageing of the population. The incidence rate of HF varies between different regions within the same country, as is the case in Spain [1], where Catalonia is one of the communities with the highest incidence rates.

Objective: to describe the secular trend and seasonal variation in the incidence of HF over 12 years (2003-2014) in Catalonia (Spain), adjusted by sex, age and type of fracture.

Material and methods: Data about sex, age and type of fracture from people ≥65 years discharged between January 1st 2003 and December 31th 2014, whose main diagnostic code was the codes 820.0x and 820.2x (ICD-9-CM), were collected from the Minimum Basic Data Set. Patients with pathological and open fractures were excluded. Population data were obtained from the Insurance's Central Register of Catalonia. Months of admission, adjusted to 30 days, were grouped every three months beginning with spring (March, April, May). Annual crude (per 100,000 population) and standardized (2010 population based) incidence rate both with 95% confidence interval (95%CI) assuming Poisson distribution, were calculated for the whole population and by sex or age groups (65-74 years, 75-84 years and 85 and above). To assess the changes during the period and seasonality, Poisson regression models were built including sex and age as confounders and the log of population as an offset term (incidence rate ratio IRR with 95%CI). Calendar year was introduced as a predictor, to explore the linear trend, as well as a categorical variable, in a second model, to analyze the differences between years. All analyses were performed using Stata 13.1 (StataCorp LP, USA).

Results:
Over these 12 years the total episodes of HF in people ≥65 years were 100,110 (75.8% of them in women). Trochanteric fractures were the most frequent (55.8%). The crude incidence rate (per 100,000 population) decreased from 677.2 (95%CI 662.0-692.7) to 657.6 (95%CI 644.0-671.5). The standardized incidence rate decreased from 754.0 (95%CI 738.6-769.3) to 641.5 (95%CI 627.7-655.3), with a sharp decrease in women (-16.8%) while in men was stable.

A significant seasonal pattern was observed, with more cases in winter and less in summer (spring as reference).

Conclusions: There is a downward trend in the incidence of HF in Catalonia through the last 12 years. Although the absolute number of HF has increased, the incidence has decreased for both sexes and mainly for the population 65 to 84 years old, while for the +85 group it has remained stable. There is a seasonal presentation with more cases in winter than in spring.