



Editorial

Vertebral fracture: A hidden enemy?☆



Fractura vertebral: ¿otro enemigo oculto?

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Vertebral fractures are the most common type of fracture due to skeletal fragility; however, they are usually not opportunely diagnosed and, even worse, they are not treated. Most of them occur as a consequence of osteoporosis or low bone mass. It is estimated that a vertebral fracture occurs every 22 s¹ and approximately 25% of postmenopausal women, older than 50 years, have a prevalent vertebral fracture; and as age increases this risk progressively increases in such a way that nearly half of women older than 80 years have a prevalent vertebral fracture.² The risk of future vertebral fractures increases with the number of previous vertebral fractures; for example, having 2 or more prevalent vertebral fractures increases by 7 times the risk of suffering a new vertebral fracture within the lapse of one year.³ Although many vertebral fractures cause pain and disability, they are very often overlooked or treated as a simple back pain. Likewise, mild and moderate fractures are not identified, and they are not reported in the patient's medical history, with the consequent lack of diagnosis and treatment.

It has been difficult to evaluate the epidemiology of vertebral fractures for 2 reasons: first, about 70% of them are not

clinically apparent,⁴ i.e., they are asymptomatic, and therefore is necessary to perform X-rays of the thoracolumbar spine in the general population in order to determine their prevalence. And, secondly, no general consensus has been reached regarding the definition of vertebral fracture or deformity secondary to osteoporosis.⁵ The term “fracture” is frequently used for those vertebral “deformities” that are clinically manifested with acute or chronic back pain, dorsal kyphosis or “hunchback of the elderly” and decreased height.

The prevalence of vertebral fractures in a same population can vary depending on the method used, as observed in the EVOS European study,⁶ reporting an average overall prevalence of 20% in men and women over 50 years of age. In the year 2009 was published the first Latin American study conducted in the community in order to determine the prevalence of vertebral fractures, called LAVOS study (by its acronym: “Latin American Vertebral Osteoporosis Study”). A total of 1922 women older than 50 years, randomly selected from the community, coming from 5 countries: Argentina, Brazil, Colombia, Mexico and Puerto Rico, were studied. A standardized questionnaire and

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lateral X-rays of the dorsal and lumbar spine were used. It was observed an average overall prevalence of vertebral fractures of 11.18% (12% in Puerto Rico, 14.1% in Brazil, 17% in Argentina, 17.8% in Colombia and 19.5% in Mexico). The prevalence was similar in the 5 countries, increasing from 6.9% in women between 50 and 59 years old, to 27.8% in women older 80 years.⁷ When all the risk factors associated with vertebral fractures were analyzed, it was only found a significant association with the personal appreciation of height loss and previous history of fracture.

Among the different risk factors for osteoporosis and fractures, the most important for vertebral fracture are: age, female gender, osteoporosis, previous vertebral fracture, cigarette smoking and intake of glucocorticoids. Vitamin D deficiency as a risk factor for vertebral fracture is still controversial.

In the current issue of the Journal, Jaller et al.,⁸ through a descriptive cross-sectional study, studied 319 postmenopausal women, older than 60 years, from the city of Barranquilla, in order to evaluate the prevalence of morphometric vertebral fractures (vertebral morphometry by DXA), and their correlation with the vitamin D levels, the age and the body mass index. Patients with cancer, metabolic diseases other than osteoporosis, and use of medications that could affect the bone metabolism or the vitamin D levels were excluded. The authors found an overall prevalence of vertebral fractures of 17.9%, which increased with age (3.7% in the group of 60–69 years vs. 31% in the group of 80–89 years). They also found an association with low weight and low vitamin D levels. More than 80% of the patients studied had inadequate vitamin D levels (levels lower than 30 ng/ml: 84.8%), and one third had deficiency, 30% (levels lower than 20 ng/ml). In summary, the authors found a significant correlation between the presence of vertebral fracture and low vitamin D levels, result that could be, in part, influenced by the age of the patients. The results of Jaller et al., are similar to ours. In our study,⁹ the prevalence of inadequate vitamin D levels was 71.7% (levels lower than 30 ng/ml), among which 16.6% had deficiency values (levels lower than 20 ng/ml). In addition, we found that the vitamin D deficiency was a risk factor for the presence of vertebral fractures, RR: 1.02 (CI: 0.96–1.06) and for arterial hypertension, RR:

1.47 (CI: 1.36–1.58), in our population of patients from the city of Medellín.

Conflict of interest

The author declares that he has no conflict of interest.

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