



Editorial

Better informed decisions in the management of osteoporosis

Decisiones mejor informadas en el manejo de la osteoporosis

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Osteoporosis is a major public health problem in terms of both its high prevalence and its increased incidence, the results of gradual ageing of the population and its familiar associated morbidity. Furthermore, the costs associated with the process for its prevention, diagnosis and treatment are rising constantly. Nonetheless, there are numerous uncertainties regarding the approach to this ailment due to the limited information available on some key issues such as the suitability of screening programmes, calculating fracture risk, treatment-related opportunity costs, the problems stemming from low compliance with therapy or the incorporation of patient's values and preferences into the decision-taking process. We intend to set out here some of these aspects and the most recent innovations in this field, as they might bring about a gradual change in the current panorama for handling this health-care problem.

Promotion of medicalization

We have known for some time now that the predictive value of the risk of fracture is limited when calculated from the determination of bone mineral density (BMD) or through other risk factors taken in isolation.¹ Despite everything, treating women on the basis of their BMD has been intensively promoted by outstanding clinicians, the industry itself and other regular agents of pharmaceutical marketing. This promotion has even included the pharmacological treatment of osteopenic women regardless of their associated risk factors. In this way, the overall total of such women potentially treated would represent more than half the population over age 65 and a good proportion of younger women.²

An illustrative example can be seen in a study by our group in which we evaluated the information stemming from the re-analysis of sub-groups on four drugs supporting this new yet unauthorized indication.³ Specifically, we assessed several publications that had re-analyzed the efficacy data on alendronate, raloxifen, risedronate and strontium ranelate in the original clinical trials. Generally speaking, the main finding of these re-analyses was that the benefit of these drugs in osteopenic women was similar, in relative terms, to that in women with densitometric osteoporosis and that of those who had suffered fractures. This statement did not represent any great novelty as there is considerable evidence that relative reductions in risk are usually more or less constant in patients with different baseline risks. On the other hand, the said articles emphasized the benefits, albeit always in relative terms, and omitted the potential risks. Finally, numerous authors of those publications suffered from major conflicts of interest. Despite these quite evident limitations, the data and conclusions derived from the re-analyses were the basis for the campaign carried out in our country to promote some of those drugs among women with osteopenia. Following a variety of complaints, some regional health authorities asked two of the companies to alter their promotional materials.

Another noteworthy aspect of the current approach to osteoporosis is the scant value given to the prevention of fractures by means of non-pharmacological interventions, the available evidence for which is much scantier due to the absence of any economic interest driving research. At the same time, there is a striking absence of major efforts to prevent falls, one of the most important risk factors for fracture. A recent analysis published in the British Medical Journal called attention to this problem and the need for a radical change in the approach to osteoporosis, as there are several interventions that are truly effective in reducing the number of falls and, therefore, the risk of fracture.⁴

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Evaluation of fracture risk

Osteoporosis treatments have very often been justified on the basis of the existence of abnormal BMD values with or without the presence of one or more risk factors. The formulation of these criteria to decide who should receive pharmacological treatment has taken place despite the lack of tools to estimate the absolute probability of suffering an event. This focalization on the risk of an event instead of exclusively on a risk factor already occurred some time ago in the vascular field with data stemming from the Framingham study. That is why the tool promoted by the WHO is particularly pertinent. Called FRAX and available from the <http://www.shef.ac.uk/FRAX/>⁵ web site, the tool has been developed from models using the data from individual patients and integrating the risks associated with clinical risk factors as well as their BMD at the neck of the femur. This model is based on the data from nine patient cohorts in Europe, United States, Asia and Australia, provides the 10-year fracture risk and has been validated in 11 independent population cohorts. The resulting indicator provides both the risk of hip fracture and the risk of a major osteoporotic fracture (forearm, clinical signs in the vertebrae, hip or shoulder).

The importance of placing a premium on calculating the risk in absolute terms lies in the fact that most fractures occur in women with BMD values above -2.5 SD and that other factors, particularly age, influence the risk of fracture. However, it should be pointed out that, despite these advances, the calculation of fracture risk is still in its infancy and there are scant data on the performance of this tool with respect to other simpler ones or in populations other than those in the trials included. By way of example, a recent comparison of the FRAX model with simpler (more parsimonious) models using, for instance, only age and BMD found that the latter showed a similar level of performance to FRAX (using ROC curves or according to the proportion of patients in each risk quartile subsequently experiencing a fracture).⁶

Clinical practice guidelines

Some clinical practice guidelines (CPG) have already taken note of the limitations of the strategies based solely on BMD and are gradually introducing the assessment of the absolute risk of fracture over ten years. Nonetheless, some of these propose very low fracture risk thresholds, entailing practically the widespread treatment of the elderly population. For example, the National Osteoporosis Foundation recommends treating women with densitometric osteoporosis regardless of their fracture risk or starting from low fracture risk values (a 3% risk of hip fracture or a 20% risk of major osteoporotic fracture in 10 years to select women with osteopenia for pharmacological treatment).⁷ These cut-offs would imply needing to treat women over 65 years of age and the practically all those over 75 (namely 72% and 93% for the United States).⁸ Another example is found in the CPG from the American College of Physicians, which recommends treatment in women with densitometric osteoporosis aged 50 and above.⁹ This recommendation would entail treating women with a 10-year risk of major osteoporotic fracture in excess of 9% or over 3% for hip fractures. It would be necessary to examine how many of these women, after being duly informed about the risks and benefits of the intervention, would really be interested in taking the medication for such a long time. This figure is not known at the moment, as there is very scant information in this regard.

The CPG mentioned above propose much lower treatment thresholds than those suggested in the field of vascular medicine and, therefore, they implicitly assume that the implications of a fragility

fracture are much greater and more significant for the patient than a cardiovascular event, where the treatment thresholds are 20%–30% at 10 years. It is clear that figures given for the population that are candidates for treatment are disproportionate and would entail unnecessary medicalization of the population. In fact, they would, on occasions, make screening practically futile as, above certain ages, virtually all of the population would be included: we would be treating all women despite obtaining very scant benefit.

In our setting, a Clinical Practice Guidelines Programme has recently been implemented within the National Health System (available at: http://www.guiasalud.es/egpc/programa_objetivos.html) co-ordinated by “GuíaSalud”. Quality CPG are developed within this framework in accordance with an explicit methodology,¹⁰ applied to both their preparation and also their implementation and updating. Specifically, the programme has so far drafted 10 guideline and the guidance on handling osteoporosis will be published this year (2010). These guidelines have been co-ordinated by the Catalan Agency for the Assessment of Medical Technologies with the participation of Spanish scientific societies, such as those for Family Medicine, Internal Medicine, Gynaecology or Rheumatology. This co-ordinated effort is intended, apart from the production of quality guidelines, for the avoidance, as far as possible, of multiple institutions each having their own CPG, with the consequential squandering of effort and resources. It is to be hoped that these high-quality multidisciplinary guidelines will incorporate more and more of the best available evidence, adequately ponder the risks and benefits of interventions, limit the prominence of authors with major conflicts of interest (in both economic and intellectual terms) and gradually include the patients' perspective.

In our opinion, the aspects highlighted are going to imbue our health system with greater rationality at the various levels involved in preventing, diagnosing or treating osteoporosis. These are small steps in the right direction, but will require time and willpower before the interests of patients with osteoporosis take pride of place in the process of taking decisions that affect their lives.

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