EDITORIAL

European guidance for osteoporosis: an American perspective

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Osteoporosis is a disorder that similarly affects most populations around the world. Large studies in the Americas, Europe, Asia, and Australia have demonstrated far more similarities than differences in the epidemiology, pathophysiology, and both clinical and societal consequences of osteoporosis. As a result, the perspective from America about the management of osteoporosis would be expected to be in general agreement with a thoughtful summary of the European perspective.

The Guidance detailed in the article by Kanis and his European colleagues[1] is based on studies performed around the world. The description of the diagnostic and treatment options are almost identical to those available in the United States. Exceptions include the availability of strontium ranelate and parathyroid hormone 1-84 in Europe but not in the USA as approved treatments for osteoporosis.

Another difference between the European approach and that in the USA is that, in Europe, the diagnosis of osteoporosis is based solely on bone mineral density (BMD) measured in the proximal femur, specifically the femoral neck. In contrast, the diagnosis in the USA has traditionally been based upon BMD values in either the proximal femur or the lumbar spine. This approach is reflected in the Position Statement of the International Society of Clinical Densitometry, largely an American organization.[2] This issue is addressed in the European Guidance document.

The most novel and important component of the European Guidance document is the shift toward making treatment decisions based upon levels of absolute risk rather than simply on BMD measurements. This approach is now feasible with the availability of the World Health Organization (WHO) absolute fracture risk algorithm (FRAX™). Americans have been very supportive of the idea of moving toward absolute risk as the indication for therapy. Algorithms have been developed in both the USA and Canada and have been incorporated into some of our treatment guidelines.[3,4] However, Americans have been anticipating the release of the WHO algorithm which is much more scientifically validated than are other strategies for assessing fracture risk.[5] The National Osteoporosis Foundation (NOF) in the USA has recently revised their guidelines for choosing appropriate patients to receive pharmacologic therapy for osteoporosis and have incorporated the FRAX™ risk model into that guideline.[6]

While the general approach of choosing treatment thresholds based on fracture risk, it is anticipated that there will be differences between the American and European perspective regarding the level of risk at which a treatment is recommended. The NOF guidelines suggest considering pharmacologic therapy for postmenopausal women and older men who have experienced a spine or hip fracture, who have BMD T-scores of –2.5 or less in the spine or proximal femur or who have a 10-year probability of experiencing a major osteoporotic fracture of 20% or higher or a 10-year probability of experiencing a hip fracture of 3% or higher.[6,7] Those intervention thresholds were based upon careful clinical and cost-effective analysis based on American clinical and economic data. The thresholds are driven, in large part, by the availability of healthcare resources and the importance of treating patients with osteoporosis as an overall health concern in USA. Other countries or regions of the world will make their own analyses and will likely make recommendations for intervention thresholds that differ (usually higher fracture risk) from those indicated by the American analysis.

It is important to emphasize a point that was made in the review. The Guidance is a starting point for determining who should be treated, not a rock-solid rule. There are many clinical circumstances where we know that fracture risk is high or that rapid bone loss occurs that cannot

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be accounted for in risk algorithms. Examples include patients immediately post organ transplant, older men beginning androgen deprivation therapy for prostate cancer and women just stopping long-term estrogen therapy. Having validated risk based treatment guidelines will not take the place of clinical judgment but will provide "guidance" in those circumstances where uncertainty exists about the usefulness or justification for treatment.

The implications of the shift from BMD-based to risk-based treatment thresholds are very important to patients and to public health policy.[5] Treatment will be targeted to patients who will receive the greatest benefit, and patients at low risk for fracture – who would have minimal benefit – will not be exposed to even the infrequent risks of pharmacological therapy. Furthermore, by focusing treatments on those where the benefit is greatest (moderate or high risk) will optimize the use of health care resources which are precious for all countries and societies.

The Guidance document by Kanis and his European colleagues reflects the latest in thinking about rational and appropriate approaches to the evaluation and treatment of patients with osteoporosis. With only the few exceptions noted, those approaches are the same now recommended in America. This is due, in large part, to the availability of strong epidemiological, clinical and health economic evidence upon which the strategies for managing osteoporosis are now determined. Basing clinical management on sound and solid scientific evidence allows us to move beyond most geographic or cultural differences in our approaches to medical management.

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