



Comments on Kanis et al.: Algorithm for the management of patients at low, high, and very high risk of osteoporotic fractures

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We read with great interest the paper by Kanis et al. describing a new algorithm for the management of patients at risk of fragility fracture [1]. The authors suggest to arithmetically adjust the FRAXTM with simple anamnestic variables that were not previously included in the algorithm, and outline a new category of risk (i.e., very high). In addition, the authors propose a new “category tailored” treatment process which entitles bone forming agents as first line of treatment in those patients at very high risk of fractures. In summary, Kanis and colleagues recognize three new pivotal points when dealing with osteoporosis: (1) FRAX should be arithmetically integrated with novel risk factors; (2) the identification of three risk categories (i.e., low, high, and very high risk); (3) bone anabolics should be considered in all patients at very high risk of fracture.

A similar treatment algorithm has been applied in Italy since 2015 when the Nota 79 has been developed by Italian Agency for Drugs (AIFA). The Nota 79 regulates the treatment reimbursability for osteoporosis medications and has been updated in 2017 (<http://www.agenziafarmaco.gov.it/content/nota-79>). The Nota 79 stratifies the risk in view of many risk factors: demographic and anthropometric data, femoral and/or lumbar spine BMD T-score, family history of femoral or vertebral fractures, number and site of previous osteoporotic fracture (including vertebral, femoral, and nonvertebral nonfemoral fractures), glucocorticoid treatment (> 3 or > 12 months, ≥5 mg prednisone or equivalent), adjuvant hormone therapy for breast cancer, and comorbidities that induce an increased risk of fracture (rheumatoid arthritis and other connective tissue diseases, chronic obstructive pulmo-

nary disease, inflammatory bowel diseases, Parkinson’s disease, multiple sclerosis, human immunodeficiency virus infection, diabetes, and severe physical handicap). According to the Nota 79, patients with ≥ 3 prevalent vertebral or hip fragility fractures or patients on anti-osteoporotic medication with a new incident vertebral or hip fracture should receive a bone anabolic treatment. Individuals with more than one prevalent vertebral or hip fracture should be considered at very high risk of fracture and merit a bone anabolic therapy if they have lumbar spine or total hip T-score of ≤ -4 and/or if they are receiving long term glucocorticoids (≥ 5 mg/day prednisone equivalent, > 12 months).

In addition, we have recently developed a web-based fracture risk-assessment tool (DeFRACalc79, <https://defra-osteoporosi.it>) that arithmetically adjusts the risk based on the risk factors contemplated by the Nota 79. As a step forward, we have planned to refine the DeFRACalc79 algorithm including the recency of vertebral or hip fracture for the identification of a condition of very high risk of fracture, as correctly suggested by Kanis et al.

Compliance with ethical standards

Conflicts of interest None.

Reference

1. Kanis JA, Harvey NC, McCloskey E, Bruyère O, Veronese N, Lorentzon M, Cooper C, Rizzoli R, Adib G, al-Daghri N, Campusano C, Chandran M, Dawson-Hughes B, Javaid K, Jiwa F, Johansson H, Lee JK, Liu E, Messina D, Mkinsi O, Pinto D, Prieto-Alhambra D, Saag K, Xia W, Zakraoui L, Reginster JY (2019) Algorithm for the management of patients at low, high and very high risk of osteoporotic fractures. *Osteoporos Int* 31:1–12. <https://doi.org/10.1007/s00198-019-05176-3>

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