EDITORIAL

Calculating fracture risk in primary care

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OSTEOPOROSIS IS A PRIMARY CARE DISEASE. ALMOST 250,000 OSTEOPOROTIC FRACTURES occur in the UK each year and nearly one woman in two will experience a fracture following the menopause. Such fractures can have major adverse effects on quality of life in terms of pain and disability in addition to placing a considerable burden on the NHS. Hip fractures account for more than 20% of all orthopaedic bed occupancy and the estimated 70,000 hip fractures in the UK cost health and social services £1.7 billion each year.[1] With an ageing population, the cost to society and individuals of treatment, rehabilitation and premature mortality is set to rise.

Given the availability of cost-effective treatments to reduce hip and other fracture risk, how can we best approach the management of osteoporosis in primary care? Experience from other disease areas such as CVD suggests that the availability of risk calculators and their incorporation into clinical guidelines can broaden GPs' knowledge and awareness of disease areas, as well as targeting treatment at those at high risk.

While the QFractureScores tool described in the recent paper by Hippisley-Cox and Coupland in the BMJ[2] is useful in drawing attention to the ability to calculate fracture risk in primary care, it is still some way from being a clinically useful tool and lags behind the recently launched FRAX® tool. The latter was developed by the WHO Collaborating Centre for Metabolic Bone Diseases at the University of Sheffield (www.shef.ac.uk/FRAX). Despite limitations in the comparison between QFracture and the much simpler FRAX® tool, the BMJ study actually provides an excellent validation of the FRAX® tool. It is important to bear in mind that the FRAX® tool has been derived and validated internationally.[3]

To be effective, a tool should not only use intuitive risk factors and identify reversible risk but should also be incorporated into clinical guidelines. In contrast with FRAX®, the choice of risk factors within QFracture has been driven by what is available rather than what is optimal. For example, the score does not take into account two of the major risk factors for future fracture, especially hip fracture, namely a history of fragility fracture and a measurement of femoral neck bone mineral density (BMD). Previous fracture alone is the most useful single risk factor in any case-finding strategy for the management of osteoporosis. The predictive value of BMD, a relatively cheap and convenient test, in assessing fracture risk is comparable with that of hypertension for stroke and is somewhat better than that of cholesterol for MI.

Indeed, the majority of osteoporosis treatment studies have targeted individuals on the basis of low BMD but few, if any, have demonstrated anti-fracture efficacy in patients identified on the basis of CVD, type 2 diabetes, asthma, tricyclic antidepressant use, falls history or liver disease. In contrast, patients at high risk identified by FRAX® have been shown to respond to pharmacological interventions.

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The failure to include history of fragility fracture and BMD measurements in QFracture, particularly in younger patients, means the score is not compliant with NICE guidance and would cause significant problems in a PCT audit. Both risk factors have also been incorporated into FRAX-based guidance recently published by the National Osteoporosis Guideline Group (www.shef.ac.uk/NOGG).[4] Both the FRAX® tool and the NOGG guideline have been widely endorsed by professional and lay organisations within the NHS including the Royal College of Physicians, the Primary Care Rheumatology Society and the National Osteoporosis Society.

The availability of fracture risk calculators can only enhance the management of osteoporosis in the UK. Both FRAX and the NOGG guideline will be incorporated into GP software systems in the near future.

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