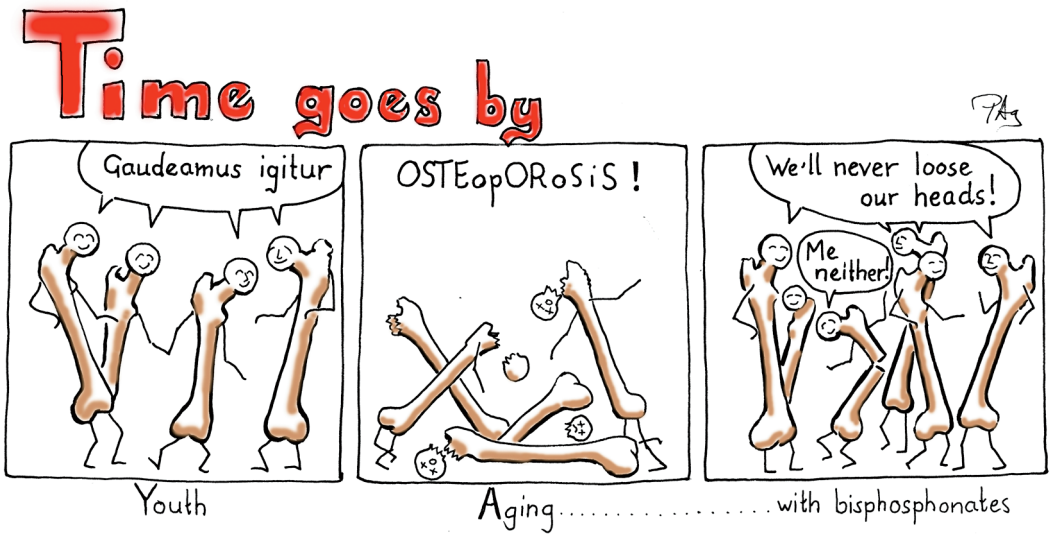
Editorial

Bisphosphonate-induced fractures: Nature strikes back?

Whenever I have been lucky and successful, I have always had an uncomfortable feeling that there would be a high price to pay in the end. This is probably a common emotion, expressed in sayings like "there is no such thing as a free lunch" or "you never get something for nothing". Although these sentiments are widespread and easily expressed, they are utterly wrong. We should appreciate success. Modern medicine is a good example: it has given us better lives at a low cost.

Bisphosphonates are a success story: they have saved thousands of people from the suffering of osteoporosis fractures, with few side effects. Even from the start, there were Cassandras prophesying that a reduction in bone remodeling would eventually lead to "frozen bone", accumulating microdamage until it breaks. Nature's revenge for tampering with aging! For a long time, these predictions have not come true—and hopefully they never will. Even so, in this issue of Acta Orthopaedica and in other recent publications, an unusual type of fatigue fracture of the femoral shaft is described, which appears to be related to insufficient maintenance remodeling of the bone (Goh et al. 2007, Kwek et al. 2008, Sayed-Noor and Sjödén 2008). The patients have been on bisphosphonates for a long time, and a report that has just appeared makes it rather clear that these are to blame for this specific type of fracture (Neviaser et al. 2008).

Once these cases become known, one can expect that more will be recognized. However, it is not certain that they will ever be many. Common postmenopausal osteoporosis is a hypermetabolic state in the bone, and the bisphosphonates are thought to slow down turnover to a pre-menopausal ("normal") level (de Papp et al. 2007). None of the published studies on fatigue fractures have investigated the nature of the patients' osteoporosis. It might be that they have an uncommon form, with reduced bone turnover instead of increased turnover—or even some other rare bone abnormality that predisposes the patient to fatigue fractures. This would be interesting to know. Even if it turns out that such patients have an uncommon form of osteoporosis, it is doubtful whether it would be worthwhile to screen for this before prescribing



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a bisphosphonate, as long as there is only a small risk of developing these fatigue fractures.

Should we now be worried that bisphosphonates are dangerous drugs? No, instead we should appreciate that a rare but interesting complication has highlighted their potency and interesting biology. Despite the appearance of such reports, bisphosphonates reduce the overall risk of fracture in osteoporotic people; nothing else. As it appears, the diaphyseal fatigue fractures are so rare that fearing them would lead to the same type of deplorable misjudgements as when the public fears terrorists more than traffic accidents.

Under all circumstances, insufficient measures to identify and take care of people with increased risk of osteoporosis-related fracture are definitely a greater health problem than any minimal risk of bisphosphonate-induced fatigue fracture.

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