Circulating Fibroblast Growth Factor 23 Increases Following Intermittent Parathyroid Hormone (1–34) in Postmenopausal Osteoporosis: Association with Biomarker of Bone Formation

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We read with interest in your November issue the article “Circulating Fibroblast Growth Factor 23 Increases Following Intermittent Parathyroid Hormone (1–34) in Postmenopausal Osteoporosis: Association with Biomarker of Bone Formation” by Sridharan et al. While we welcome their input into elucidating the use of FGF-23 as a biomarker in osteoporosis treatment, we would like to address a few issues: the unusual baseline characteristics of the cohort studied and the small number of patients in the study.

To briefly address these points individually, firstly, we are concerned that the 27 patients in this study are not representative of the usual population of patients who have been treated with bisphosphonate therapy for a mean period of 4 years. We note that the traditional bone markers (serum osteocalcin, serum PINP, and urinary CTX) were not suppressed at baseline in the sample studied, which is at odds with what would be expected of a group who had only recently ceased taking bisphosphonates. Interestingly, we note that the mean eGFR of these patients was 75 ml/(min 1.73 m²). So, given that accurate estimation of osteocalcin requires good renal function [1], these patients’ normal eGFR out rules renal impairment as a possible confounding variable. This confirms that traditional bone markers were truly not suppressed in this group. Also, it raises the

question of whether or not this cohort was compliant with bisphosphonate therapy or if there could be other comorbidities accounting for their unusual characteristics.

Secondly, we suggest that caution must be exercised in interpreting the findings, given that the study group consisted of only 27 patients and, indeed, these were composed of two distinct subgroups of 15 and 12 people treated with two different bisphosphonates prior to commencing PTH. Thus, it is hard to attribute statistical significance to the results.

Overall, we are concerned that it may not be prudent to extrapolate the data from this somewhat idiosyncratic group to a more general osteoporosis population. In conclusion, we agree that FGF-23 is an exciting new marker in osteoporosis. However, its relationship to other bone markers may be better investigated in a more representative group of bisphosphonate-treated patients.

References

1. Delmas PD (1983) Effect of renal function on plasma levels of bone Gla-protein. Clin Endocrinol Metab 57(5):1028–1030

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