Reviewer's report

Title: Discordance in diagnosis of osteoporosis using spine and hip bone densitometry

Version: 3 Date: 23 January 2005

Reviewer: Bo Abrahamsen

Reviewer's report:

General
The authors have added odds ratios, clearly identifying which factors may lead to T score discordance and which factors will reduce discordance. That makes the paper much more useful. Also, the study population has been described in more detail.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

None

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1) Results, page 7. There seems to be contradictory findings on the influence of sex on discordance. Line 13 and 17 point towards opposite conclusions, but this is not really discussed. When sex is not significant in the multivariate analysis, it would seem that the effect is accounted for instead by one of the covariates. It is not clear to me if all the variables in each of the two columns of table 4 went into the outcome analysis, but otherwise the term should be univariate and not multivariate. If this is a multivariate analysis, results suggest that factors such as smoking habits and age explain the apparent difference between the two sexes mentioned in line 13. Needs clarification.

2) Discussion. It is not made sufficiently clear why the use of multivariate regression analysis should constitute a limitation to the paper. I therefore think it would be appropriate to delete the section beginning "The other limitation is"

3) Discussion, page 10. It does not seem convincing that a birth cohort effect should affect T-score concordance. Authors may consider deleting this section or clarifying.

4) Table 4: Some of the variables are labelled "positive" i brackets. This may confuse some readers as to the direction of the effect. Let me exemplify. When readers see Corticosteroid Use (positive) 0.89 (0.73-1.1) they could infer that the effect of corticosteroid use was to increase discordance, because the word positive could imply a positive direction of effect. In fact, 0.89 being smaller than 1 indicates that discordance is diminished. Remove "positive" and trust readers to understand that Corticosteroid use 0.89 means exactly that, i.e. that steroid users have an 11% reduced risk of minor discordance.

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Discretionary Revisions (which the author can choose to ignore)
State explicitly that HRT was not considered a bone active agent, p. 5 and others.

I am not sure that patients filled in the questionnaire "blindly". But they probably filled in the questionnaire prior to the DXA scan, i.e. without knowledge of their T-score.

What next?: Accept after minor essential revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests