Author's response to reviews

Title: Low bone mineral density is related to atherosclerosis in postmenopausal morrocan women

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Author's response to reviews: see over
To the Editor of BMC Public Health

Subject: Ref: MS: 8019665492505550
“Low bone mineral density is related to atherosclerosis in postmenopausal Morrocan women.”

Sir,

Thank you for your interest in our paper: “Low bone mineral density is related to atherosclerosis in postmenopausal Morrocan women.”.

As you recommended, we addressed the comments for the reviewers point-by-point and we revised our manuscript accordingly. All the changes we did are underlined in the new version of the manuscript.

We sincerely hope these modifications will satisfy you, as well as the referees.

Sincerely yours

Dr Ihsane Hmamouchi
For reviewer 1:

Thank you for reviewing our manuscript “Low bone mineral density is related to atherosclerosis in postmenopausal Moroccan women” and for your relevant comments.

We will answer point-by-point to your comments. We hope you will be satisfied.

All changes were carried out in the new version of the manuscript and underlined to be visible.

1- The study is carried out in a relatively small sample size involving a specific group of women from a country. The title, therefore, should include ‘….postmenopausal Moroccan women’

R: As you suggested, we have include in the title «postmenopausal Moroccan women» (page 1)

2- In ‘Introduction’ section, (line 10), word uncertain should be replaced with ‘unclear’.

R: As you suggested, we have replaced uncertain by unclear (page 4)

3- Was the osteoporosis diagnostic criteria based on BMD measurements was previously established or it was adopted from the machine based criteria?

R: You wondered how the Osteoporosis was assessed by BMD and defined according to the world Health Organisation (WHO) (T-score <2.5 standard deviation of normal values for young people), and as described on page 6, line 24 “In the T-score calculations, the manufacturer's ranges for European population reference were used because of the absence of a Moroccan data base.”

4- How many of women had osteopenia?

R: 27% women had osteopenia

5- The description about clinical parameters/chemicals/kits etc should be clubbed according to their source of procurements.

R: As the referee 1 suggested, we clubbed clinical parameters/chemicals/kits according to their source of procurements. (page 6, line 14)
6- In case of clinical parameters, the inter-assay CV of QC pools should be indicated.
R: As you suggested, we had added the inter-assay CV of QC pools (3%) page 6, line 3

7- In results authors should also give mean values of all parameters after splitting them in to osteoporotic and non-osteoporotic.”
R: We have added data of all parameters after splitting them in to osteoporotic and non-osteoporotic patients in our modified manuscript (cf table 2) (page 21).

For reviewer 2:
Thank you for reviewing our manuscript “Low bone mineral density is related to atherosclerosis in postmenopausal Morrocan women ” and for your relevant comments.

We will answer point-by-point to your comments. We hope you will be satisfied.
All changes were carried out in the new version of the manuscript and underlined to be visible.

1- The authors suggest that bone disease must be looked for in patients with vascular disease but the opposite, in my opinion, is more interesting: to look for occult vascular disease in patients with low bone mineral density. However, this kind of analysis can only show an association between low femoral BMD and CA IMT and any approach is valid if well explained.
R: We agree with your proposal

2- In this study, in univariate analysis it could be interesting to compare two groups defined by the diagnostic criteria of femoral osteoporosis; Tscore<-2.5 SD vs. Tscore#-2.5 SD. All the variables presented for the general population should be compared between these two groups. Calcium, phosphorus, Vit D, osteocalcin, PTH levels and urine CTX should be also presented, if available. It should also be interesting to see the distribution of the 4 types of plaques between these two groups. The lack of correlation verified in this study may be the result of the sample dimension but is possible that an association might be verified between plaques and presence or absence of osteoporosis.
R: We have further investigated our results of all forementioned parameters after having splitted them into osteoporotic versus non-osteoporotic patients in our modified manuscript.
There were no significant differences between these two groups with regard to clinical and biological parameters. No significant association was observed concerning the plaque morphology as assessed by echography (p=0.241) (cf table 2) (page 21).

3- I also suggest trying multivariate analysis in the opposite direction: dependent variable as femoral BMD and lumbar BMD, in a linear regression or diagnosis of osteoporosis (yes, no) in a binary regression.

R: As you suggested, we tried to conduct a multivariate analysis in the opposite direction: dependent variable as femoral BMD and lumbar BMD, in a linear regression. However, this approach did not result in any relevant association, so we have maintained the previous approach.

4- In the discussion, the lack of association between lumbar BMD and vascular disease also deserves to be referred to. Previous studies have shown a negative association between lumbar BMD and IMT but this lack of association has also been described in hemodialysis patients.

R: As you suggested, we have included a reference to the lack of association between lumbar BMD and IMT in hemodialysis patients ref28. (page10, line 16 )


**For Editorial comments:**

1- The Abstract needs a 'Background' section that provides some context information in addition to aims.

R: We have added a background in the abstract of modified manuscript (page 3 )

2- Please provide the name of the ethical committee that gave approval for this study

R: The name of the ethical committee was provided (page 5, line 13) committee of University-hospital Mohamed V Souissi
3- We recommend that you copyedit the paper to improve the style of written English.

R: As suggested, we copyedit the paper to improve the style of written English by English Manager Science Editing.