Author's response to reviews

Title: The Relationship Between Microvascular Complications And Vitamin D Deficiency In Type-2 Diabetes Mellitus

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Author's response to reviews: see over
Dear editor,

We are sending our revize manuscript titled as “The relationship between microvascular complications and vitamin d deficiency in type-2 diabetes mellitus” to your journal “BMC Endocrine Disorders”. We tried to answer reviewers concern.

We do look forward to hearing from you soon.

M.D Celil Alper Usluogullari

Title: The relationship between microvascular complications and vitamin d deficiency in type-2 diabetes mellitus’

Version:5

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Reviewer: Jessica Kiefte-de Jong

Reviewer’s report:

Major concerns:

A- In the abstract authors state that the objective of this study is twofold: firstly, to investigate the frequency of vitamin D deficiency in patients with type-2 diabetes mellitus and secondly, to investigate the relationship between vitamin D deficiency and microvascular complications of diabetes mellitus. However, later throughout the whole manuscript the first objective is left out and only second one is being investigated.

Answer:

- The frequency of vitamin D deficiency in patients with type-2 diabetes are now described on page 7: “In our study, 557 patients with type 2 diabetes 459’s (83.1%) of 25-OH vitamin D levels <30 ng / mL, 96 (16.9%) patients were detected above > 30 ng / ml. 557 patients with type 2 diabetes 252’s (45.2%) of 25-OH vitamin D levels <20 ng / mL, 305 (54.8 %) patients were detected above > 20 ng / ml. 67(12%) patients of 25-OH vitamin D <10 ng/mL were detected. 98 (%87.5) people in the control group of the vitamin D level was under <30 ng / mL. 5(4.5%) control people 25-OH vitamin D <10 ng/mL were detected”

- We added new literature about vitamin D deficiency and microvascular complication on page 3: “In a study of type 2 diabetes, mean 25(OH)D concentrations were 63.64±25.51 nmol/L and 74.6% of patients had hypovitaminosis D (5). Genetic variants associated with low plasma 25(OH)D concentrations are associated with type 2 diabetes and
low plasma 25(OH) D concentrations might be a modest mediator between obesity and increased risk of diabetes.”

B- Since the first objective is not analyzed the choice of cases and controls for this study is not adequate. To answer the question whether there is a relationship between vitamin D deficiency and microvascular complications in patients with type-2 diabetes mellitus it would be appropriate to assign patients with type 2 diabetes microvascular complications as cases and patients with type-2 diabetes mellitus but without microvascular complications as controls. Please discuss.

Answer:

-We discussed it with a new literature on page 10. “People with diabetes frequently develop vascular disease. In another study, patients with a blood 25OH-D concentration <50 nmol/L had a higher cumulative incidence of macrovascular and microvascular events than those with levels ≥50 nmol/L. Low blood 25OH-D concentrations are associated with an increased risk of macrovascular and microvascular disease events in type 2 diabetes.”

C-The statistical analysis for this kind of study is inappropriate- in addition to testing differences between the two groups; to test if there is an association between exposure of interest (vitamin D deficiency) and outcome of interest (microvascular complications) some multivariable regression analysis with appropriate adjustment for confounders should be performed (such as logistic regression, reporting results as odds ratios (OR)).

Answer:

- We made new univarite and mutivarite regression analysis with OR on table VI and page 9: “The risk factors for complication in diabetes patients, based on multivariate analysis was showed on table VI. Multivariate analysis showed that HBA1C (OR=1,671; CI= 1,36–2.04; P<0,001) and 25-OH vitamin D ((OR=0,97; CI= 0,94–0.99 ; P<0,018) was the independent predictor of complication in diabetes patients .”

Rewievers minor revision

- the paper appears sloppy with numerous typos, different fonts throughout the manuscript, the numbers in tables as well as percentages often do not add up, etc

Answer: All of them have been changed as the rewiever indicates.
- Methods: it is not clear what is the study design, is it case control or retrospective cohort study, please clarify. If it is case-control study were the cases and controls matched, and if yes, based

Answer: we wrote it on page 3: “The study design was planned as a retrospective cohort study”

Statistical analysis: as mentioned above, mere analysis of differences between the two groups studied is not enough for this kind of study. Use of some multivariable regression analysis is advised (for example logistic regression).

Answer: we used as reviewer indicates statistical analysis on table VI page 9: “Statistically significant about risk factors for complication in diabetes patients results obtained via univariate analysis were subjected to multivariate logistic regression”