

### Reviewer #1:

The authors have conducted a review of the benefits of bariatric surgery through measures of a number of markers associated with body size and the management of blood glucose, as well as a focus on the potential change of three matrix metalloproteinases (MMPs). Although markers such as BMI decreased in response to the surgery, plasma levels of these MMPs were not significantly different post-surgery, indicative that the improvements realised by the surgery were not related to the MMPs levels. Measurements of the levels of protein per se can be limited, although presumably follow activity profiles, although as the authors point out, a limitation of the study is that activity measurements were not taken, either in plasma or adipose tissue. Nevertheless, a drawback of the current publication landscape is a lack of publication of "negative" data, so it is commendable that the authors have still chosen to submit work that does not show a direct change in MMP levels, since this still adds to the field of literature. The authors have limitations in their study design (as noted), but the work is still useful and warrants publication.

[Thanks for your kind comments for the recommendation for publication!](#)

### Reviewer #2:

Comments on the manuscript entitled "Do different bariatric surgical procedures influence the plasma levels of matrix metalloproteinase-2, -7 and -9 among patients with type 2 diabetes mellitus?" In this study, the authors measured plasma MMP-2, -7, and -9 concentrations in obese patients before and after bariatric surgeries : gastric bypass (GB) in 23 patients and sleeve gastrectomy (SG) in 19 patients. They concluded that bariatric surgery reduces obesity and diabetes through MMP-2, -7, -9 independent pathways. This work provides some insight into the relationships between the effects of bariatric surgery and the expression of MMPs. In the discussion, the authors give the limits of the study. This work could be the source of other research aimed at using certain MMPs as markers of the efficiency of bariatric surgery. The manuscript is interesting and well written but it needs several improvements.

[Thanks for your positive comments and recommendations for the improvements.](#)

Methods - Give the characteristic of patients into a table in Methods (which can become "patients and methods") and not at the beginning of Results (lines 193 to 196)

[Thanks for your suggestion. We moved the paragraph regarding characteristic of the patients to "Patients and Methods" and we added a new table 1 for the baseline characteristics.](#)

- Give the abbreviation for "waist circumference": WC Discussion and references - lines 250 to 252

[Thanks for your suggestion. We found the abbreviation was only used in the abstract but not in the main text. However, thanks to your reminding. We gave the abbreviation BMI to body-mass-index.](#)

the reference Concha et al is not referenced in the list. - lines 254 to 256

[Thanks for your suggestion. Since García-Prieto CF and Concha F. García-Prieto refer to the same person. We changed the name into Garcia-Prieto. We did cite the article in reference 46.](#)

the reference [47] in the list is not Soumaya et al, but Boumiza et al. Check the references, correct and complete.

Thanks for your suggestion. We corrected the mistake.

Figures and tables - Figure 1 is not called in the text –

Thank you very much. We already called the Figure 1 in the end of the Result.

Table 1 : add a column with WC (Waist circumference) - Table 2 : add a column with WC (Waist circumference)

Thanks for your suggestion. We added a column in the new Table 2 and Table 3, respectively.

### **Reviewer #3:**

Wu W-C e et al. performed an observational study to compare transient serum MMP after bariatric surgical procedures. This study encompasses an interesting topic, but it has some critical problems.

1. The transient serum MMPs seems no difference between two groups. Authors concluded that improvements in obesity and T2DM induced by bariatric surgery might be the result of MMPs independent pathways. Their findings, however, doesn't support their conclusion. Authors should mention clearly that the transient serum MMPs was not different between two groups.

Thanks for your suggestion. We added “The plasma levels of the three MMPs didn't differ before and after the two surgeries” on line 277-278 in the Discussion.

2. Small sample size.

Thanks for your suggestion. For bariatric surgery study, our case number may not be smaller than other groups. Also, we have stated this limitation in our text.

3. Authors should describe the method for collecting samples and measuring MMPs. The result of serum MMP levels are depend on the method.

Thanks for your suggestion. We already and clearly described the method for collecting and measuring MMPs in line 178-183.

4. Authors should explain that they select MMP 2, 7, 9, but they didn't measure other MMPs.

During the thorough literature review, we found that MMP-2, -7, and -9 were most investigated which were shown to benefit body weight and blood glucose control in T2DM, and obesity patients and to impact exercise effects. So, we selected them.