Response to Reviewers

Manuscript Title: Progress in the treatment of type 2 diabetes by bariatric surgery

Manuscript ID: 63575

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Dear editors,

Thank you and the reviewers for the careful evaluations on our manuscript #63575 " Progress in the treatment of type 2 diabetes by bariatric surgery". We are very grateful to the reviewers for their insightful comments and constructive suggestions. Based on the comments and suggestions, we have revised the paper accordingly.

Reviewer #1:

Scientific Quality: Grade C (Good) Language Quality: Grade A (Priority publishing) Conclusion: Minor revision Specific Comments to Authors: Progress in the treatment of type 2 diabetes by bariatric surgery - The manuscript writing shows quality, is well ordered and the information presented is clear - This review contains information suitable for students, physicians, and surgical specialists. - The manuscript summarizes the systemic mechanisms induced after performing each of the bariatric surgery techniques.

Re: Thank you for investing time in reading our manuscript. We are very grateful to the comments and suggestions.

Below I describe my suggestions - The authors should emphasize that bariatric surgery is only indicated for obese diabetic patients. - Regardless of weight loss, is dyslipidemia associated with insulin resistance? Please include

some insight about it - Do the pathophysiology of type 2 diabetes mellitus only refers to the hormonal role? - What are the effects of the surgeries described on the lipid profile of the patients? Please provide some insight on this regard. - I consider that a section discussing the three above points should be included.

Re: Thank you for the suggestions, we have added discussion and its related literatures in the revised manuscript. The excess accumulation of fat in the body induces a chronic tissue inflammation and followed by tissue insulin insensitivity, which is a well-described feature of obese diabetic patients. The pathogenesis of T2D is mainly attributable to insulin resistance and impairment of β-cell function. Multiple mechanisms result in defective insulin secretion and response in T2D, such as glucotoxicity, lipotoxicity, oxidative stress, endoplasmic reticulem (ER) stress. Evidence is expanding that bariatric surgery produces marked improvement in dyslipidemia.

"Although bariatric surgery confers the potent ability to the remission of T2D, it is only indicated for obese diabetic patients (BMI>35 kg/m^2). The pathogenesis of T2D is mainly attributable to insulin resistance and impairment of β-cell function" (page 7)

"Lipid metabolism

Multiple mechanisms result in defective insulin secretion and response in T2D, such as lipotoxicity, oxidative stress, endoplasmic reticulum (ER) stress[51]. The majority of patients with severe obesity present some dyslipidemia, such as hyperlipemia and lipoprotein abnormality, which cause excessive fat deposition in important tissues and/or organs, including adipose tissue, liver, muscle and pancreas. The excess accumulation of fat in the body induces a chronic tissue inflammation and consequent tissue insulin insensitivity, which is a well-described feature of obese diabetic patients[51]. Thereby, the mechanism that accelerates the improvement of hyperlipemia

may improve tissues and/or organs functions and insulin sensitivity, and eventually leads to remission of T2D. Evidence is expanding that bariatric surgery produces marked improvement in dyslipidemia[52, 53]. However, there are some differences in clinical effectiveness on dyslipidemia, may due to variance in each surgical anatomy. Taken together, the improvement of dyslipidemia metabolism after bariatric surgery may contribute to the attenuated insulin resistance and resolution of T2D, but the molecular mechanism warrants further investigation." (Page 8)