

## Peer Review File

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### Reviewer A

This is a retrospective study from a small series of patients (n=83 with only 29 patients with ERAS protocol). The results are not new, showing a difference in albumin levels according to BMI, but no difference in terms of complications rate according to BMI regardless of ERAS protocol.

There are many limitations.

First of all, this is a retrospective analysis and the number of patients is small. Therefore, the subgroups analysis is not appropriate. For example, in Table 4, the 4 groups (A1, B1, A2, B2) are not comparable and the statistical model is underpowered.

**Reply:** Yes, as reviewer comments this is a retrospective analysis and the number of patients is small. we have searched through the Pubmed, and there are indeed several studies about the impact of BMI on the perioperative results of radical cystectomy. However, most of the articles are about open surgery and extracorporeal urinary diversion, only two of them (Poch et al, 2012; Ahmadi et al, 2017) have tried to explore the impact of BMI on clinical outcomes of intracorporeal urinary diversion (ICUD), furthermore, none of the two studies included ERAS protocol. Secondly, we have found that both BMI and ERAS could influence perioperative albumin level, which has never been reported before as we know. Therefore, although our study has the intrinsic limitations of its retrospective nature and small sample size, the preliminary results from it could not only testify the impact of BMI on ICUD which has only been reported sporadically, but also help us to get a better understanding of BMI's and ERAS protocol's influence from a novel perspective.

In Table 3, when comparing group A and B, we found that most of the perioperative parameters showed no significant difference, except PONV and perioperative albumin level presenting inferior results in patients with a BMI<24 kg/m<sup>2</sup>. As BMI was the patient's inherent characteristic that could not be changed in a short period of time preoperatively, we tried to find if there were any clinical measures that could narrow the difference between patients with a BMI<24 or ≥24. Therefore we added a new variable, ERAS protocol, in our study and performed a subgroup analysis. Results in Table 4 indicated ERAS could optimize PONV and perioperative albumin level no matter BMI<24 or ≥24 and narrow the gap between them. We also conducted a multivariable regression analysis for  $\Delta \text{ALB}_{\min} \geq 34\%$  (Table 5), in which ERAS showed a stronger correlation than BMI, to confirm the results in Table 4.

The definition of normal or high BMI is not consensual since the authors arbitrarily choose the cut-off of 24. However, this division into two groups is not appropriate. Indeed, patients with BMI <18.5 are more likely to present with malnutrition, sarcopenia, and therefore a low albumin level (this is obvious). Conversely, a high BMI is more often defined by a BMI > 25 and obesity by a BMI > 30. The authors should follow the usual definitions.

**Reply:** several factors were taken into consideration when we determined the cut-off: 1. according to WHO criteria, BMI<18.5 is underweight, 18.5≤BMI<25 is normal, 25≤BMI<30 is pre-obese, BMI≥30 is obese; according to Asian criteria, the cut-offs are <18.5, ≥18.5 and

<23, ≥23 and <25, ≥25, respectively; according to Chinese criteria, the cut-offs are <18.5, ≥18.5 and <24, ≥24 and <28, ≥28, respectively; 2. The differences of these criteria may be due to different race, different lifestyle and eating habit, and especially, different risk of disease, such as hypertension, diabetes mellitus, hyperlipidemia, etc. In China, when BMI exceeds 24, even without reaching 25, the risk of the above diseases will be higher than those with BMI<24; 3. in our study, all of the patients came from China, it will be more accurate and instructive to classify the patients according to Chinese criteria. 4. since this is a small sample study, the conclusion will be less convincing if we divide the patients into too many groups. So we chose to divide the patients only in two groups. When patients accumulate and the sample becomes larger, we will try to perform a new study in a more detailed way by classifying the patients into 6 groups (underweight, normal, pre-obese, obese class I, obese class II, obese class III).

Finally, the presentation of this article is confused, focusing on the albumin level, while the major endpoint from a clinical point of view is post-operative morbidity. The discussion is poor. Changes in the text: we have modified our text as advised (see Page 2-3, line 38-40, 41-44, 53-55; see Page 13, line 272-273)

#### Reviewer B

The outcome of the study is counter-intuitive and somewhat confusing. However, the authors confirm the existing information.

The study is very small, but nicely done and well reported.

The STROBE Statement-checklist is very helpful as a template.

Reply: thanks a lot for your kind comments. It used to be thought that increased BMI was associated with higher PONV rate. However, there were different opinions through the past several years. In 2001, Kranke et al indicated that increased BMI was not a risk factor for PONV. Then there were studies showing that lower BMI would increase PONV rate in a variety of surgeries (Silva et al, 2006; Nitahara et al, 2007; Ukai et al, 2018; Wang et al, 2020). In a recent large scale study, the authors performed a propensity score-matched analysis, and the results indicated that overweight (BMI 25.1-30) and obese (BMI>30) patients presented less PONV when compared with normal patients (BMI 18.5-25). Regrettably, the underlying rationale behind this phenomenon still remains unclear.

#### Reviewer C

This study was reported the impact of preoperative BMI in patients who underwent LRC. The reviewer would like to suggest some critiques as follows.

Major revision

1. On line 29, the authors should revise the Purpose section. The aim of this study is more clearly described.

Changes in the text: we have modified our text as advised (see Page 2, line 29-32)

2. On line 71, “The impact of ..... reported before” is unclear. Also, “the association between BMI ..... examine before” should be revise on line 72.

Changes in the text: we have modified our text as advised (see Page 4, line 72-76)

3. On line 83, what is ma2019?

Changes in the text: we have deleted this term.

4. On line 92, the authors should quote the report with your technique of radical cystectomy.

Changes in the text: we have modified our text as advised (see Page 5, line 98)

5. On line 94, “Bricker ileal conduit” is wrong. Bricker is the surgical method with ileo-ureteral anastomosis.

Changes in the text: we have modified our text as advised (see Page 5, line 100 and 104)