



# CO<sub>2</sub> pneumoperitoneum pressure: an important factor influenced ovarian function after laparoscopy

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*Response to:* Mynbaev OA, Baimaganbetov AK, Tinelli A, *et al.* Studies which are not well designed produces misleading results concerning the CO<sub>2</sub> pneumoperitoneum impact on postsurgical ovarian function. *Ann Palliat Med* 2021. doi: 10.21037/apm-21-1451.

Submitted Jun 21, 2021. Accepted for publication Jul 06, 2021.

doi: 10.21037/apm-2021-05

View this article at: <https://dx.doi.org/10.21037/apm-2021-05>

First of all, we are grateful for the correction of the mistake in the study profile. In our study, the participants were divided into four groups [A, 10 mmHg (n=35), B, 11–12 mmHg (n=31), C, 13–14 mmHg (n=28), and D, 15–16 mmHg (n=24), respectively], and the procedure was described in the Methods part.

The discussion focused on whether the pneumoperitoneum pressure was a major factor affecting ovarian function. CO<sub>2</sub> pneumoperitoneum was found to be associated with side effects, such as hypercapnia, instability of the hemodynamics, decrease in renal functions and peritoneal oxidative stress (1,2). The effect of pneumoperitoneum pressure on ovarian hemodynamics, ovarian function and stress has been discussed in animal and clinical studies (3-6). Mastroyannis established the animal model and found that the duration of carbon dioxide pneumoperitoneum was negatively correlated with success of embryonic development (3). de Souza investigated that carbon dioxide pneumoperitoneum induced peritoneal oxidative stress, and he also found intra-abdominal pressure influenced the frequency and severity of adhesion formation by observing 41 rabbits underwent laparoscopic surgery (4).

Our results showed the longest surgical time in Group D. We speculated that higher pressure may reduce ovarian blood supply during laparoscopic surgery. The results also showed the highest incidence of pelvic adhesion in Group D, it did not explore the relationship of inflammatory reactions caused by surgery with ovarian hormones in this study. Base on the reported study (4,7). We still believe that pneumoperitoneum pressure and other factors such

as inflammatory factors, especially in patients with severe adhesions should be taken into consideration.

## Acknowledgments

*Funding:* This study was supported by Guiyang Health Science and Education Foundation [2008] No. 40.

## Footnote

*Provenance and Peer Review:* This article was commissioned by the editorial office, *Annals of Palliative Medicine*. The article did not undergo external peer review.

*Conflicts of Interest:* All authors have completed the ICMJE uniform disclosure form (available at <https://dx.doi.org/10.21037/apm-2021-05>). The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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**Cite this article as:** Song G, Jiang Y, Liu Q, Lin H, Qin J. CO<sub>2</sub> pneumoperitoneum pressure: an important factor influenced ovarian function after laparoscopy. *Ann Palliat Med* 2021;10(8):9326-9327. doi: 10.21037/apm-2021-05