



# The mortality and blood transfusion

Wen-Hsun Chang<sup>a,b</sup>, Na-Rong Lee<sup>a,b</sup>, Peng-Hui Wang<sup>a,c,d,e,\*</sup>

<sup>a</sup>Department of Obstetrics and Gynecology, Taipei Veterans General Hospital, Taipei, Taiwan, ROC; <sup>b</sup>Department of Nursing, Taipei Veterans General Hospital, Taipei, Taiwan, ROC; <sup>c</sup>Department of Obstetrics and Gynecology, National Yang-Ming University, Taipei, Taiwan, ROC; <sup>d</sup>Institute of Clinical Medicine, National Yang-Ming University, Taipei, Taiwan, ROC; <sup>e</sup>Department of Medical Research, China Medical University Hospital, Taichung, Taiwan, ROC.

## DEAR EDITOR,

We read the study by Chang et al<sup>1</sup> published in the recent issue of the *Journal of the Chinese Medical Association* with interest. The authors conducted a very informative study to evaluate the need of blood transfusion in elderly patients undergoing surgery for fractured hips,<sup>1</sup> which is one of the most common orthopedic surgeries in elder population.<sup>2,3</sup> The authors tried to evaluate the benefits of perioperative blood transfusions in the improvement of overall survival in the elderly population, based on the preoperative anemia as one of the most important prognostic factors of these patients after operation.<sup>1</sup> We congratulate the success of the authors' publication, but some questions are raised and hope to see the response by authors.

First, in the article,<sup>1</sup> we do not see the number of the patients reaching the primary endpoint (overall survival after surgery, defined as the interval from the date of surgery to the date of mortality),<sup>1</sup> and we believed the case number of mortality might be small. Since the number of cases of mortality in the study arm and control arm was important, every change by one case in the number of incidence (mortality) in the study arm (blood transfusion) would alter the result of the incidence ratio dramatically. The Kaplan-Meier survival curves of the cumulative probability of blood transfusion-related cause might be needed to clarify the risk estimation, and this method can be found everywhere.<sup>4-7</sup>

Second, it is interesting to find that the patients' characteristics after propensity score matching were not totally comparable, since in the blood transfusion group, the trend of male gender, American Society of Anesthesiologist physical status classification ( $\geq 3$ ), and others seemed to be apparent compared with those in the no transfusion group, although the difference of these parameters did not reach the statistical significance. As shown above, if the absolute number of the target (mortality) is small, any confounding factor might overweight the bias, leading to the different conclusion.

The above-mentioned questions do not criticize the scientific value of the authors' contribution, and we are looking forward to learning the authors' kind response.

## ACKNOWLEDGMENTS

This article was supported by grants from the Ministry of Science and Technology, Executive Yuan, Taiwan (MOST 106-2314-B-075-061-MY3), and Taipei Veterans General Hospital (V108C-085). The authors appreciate the financial support by Female Cancer Foundation, Taipei, Taiwan.

## REFERENCES

1. Chang WK, Tai YH, Lin SP, Wu HL, Chan MY, Chang KY. Perioperative blood transfusions are not associated with overall survival in elderly patients receiving surgery for fractured hips. *J Chin Med Assoc* 2019;82:787-90.
2. Tsai SW, Chen CF, Wu PK, Chen CM, Chen WM. Cement augmentation in the proximal femur to prevent stem subsidence in revision hip arthroplasty with paprosky type II/III defects. *J Chin Med Assoc* 2018;81:571-6.
3. Tsai SW, Lin CJ, Tzeng YH, Lin CC, Huang CK, Chang MC, et al. Risk factors for cut-out failure of gamma3 nails in treating unstable intertrochanteric fractures: an analysis of 176 patients. *J Chin Med Assoc* 2017;80:587-94.
4. Liao HT, Lin MC, Tsai CY, Hsu CY, Wu TH. Renal transplantation delays major adverse cardiac events (maces) in patients with end-stage renal disease: A nationwide population-based study. *J Chin Med Assoc* 2018;81:766-71.
5. Liu Y, Yao Y, Tang XF, Xu N, Jiang P, Jiang L, et al. Evaluation of a novel score for predicting 2-year outcomes in patients with acute coronary syndrome after percutaneous coronary intervention. *J Chin Med Assoc* 2019;82:616-22.
6. Chang WH, Wang KC, Lee WL, Huang N, Chou YJ, Feng RC, et al. Endometriosis and the subsequent risk of epithelial ovarian cancer. *Taiwan J Obstet Gynecol* 2014;53:530-5.
7. Lin XH, Ting PH, Luo JC, Lee KC, Chen TS, Huang YH, et al. Predictors of stent occlusion in patients with unresectable pancreatic cancer after biliary metal stents. *J Chin Med Assoc* 2019;82:762-6.

\*Address Correspondence. Dr. Peng-Hui Wang, Department of Obstetrics and Gynecology, Taipei Veterans General Hospital, 201, Section 2, Shi-Pai Road, Taipei 112, Taiwan, ROC. E-mail addresses: phwang@vghtpe.gov.tw; pongpongwang@gmail.com (P.-H. Wang).

Conflicts of interest: The authors declare that they have no conflicts of interest related to the subject matter or materials discussed in this article.

*Journal of Chinese Medical Association.* (2020) 83: 102.

Received October 4, 2019; accepted October 4, 2019.

doi: 10.1097/JCMA.0000000000000216.

Copyright © 2019, the Chinese Medical Association. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)