Outcomes of endoscopic submucosal dissection for gastric epithelial neoplasm in chronic kidney disease patients: propensity score-matched case–control analysis, methodological and statistical issues

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Dear editor,

We read with interest the paper by Young Kwon Choi et al. [1] entitled “Outcomes of endoscopic submucosal dissection for gastric epithelial neoplasm in chronic kidney disease patients: propensity score-matched case–control analysis”. They concluded that “ESD for gastric epithelial neoplasms can be performed in stage 3 CKD patients with comparable efficacy and safety to that performed in non-CKD patients”. Although the results seem quite interesting, there are a number of concerns which we recommend to be addressed to more clarifying the validity of the study findings.

First; for making a valid conclusion, it is critical to decrease the possibility of major selection bias when conducting a case–control study. Then, it would be better to clarify the representativeness of the study controls. Moreover, one of the critical steps in a case–control study is clarifying the study-base [2]. It would be better to clarify the study-base of cases. Did the controls come from the same study-base?

Second; some authors believe that, due to the study limitation, it would not be possible to estimate true PS from a

case–control study [3]. However, Mansson et al. using simulation studies, had shown that the following methods might be practical for making a true PS estimation in a case–control study; (1) Weighted case–control, (2) Sub-cohort, (3) Control, (4) Un-weighted case–control and (5) Modeled control [4]. It is highly recommended to clarify the employed methods for PS estimation in Young Kwon Choi et al. paper.

Third; Rothman et al. has recommended some criteria for valid selection of covariates when constructing a propensity score (PS) model [5]. They has shown that “variables that are unrelated to the exposure but related to the outcome should always be included in a PS model”. In contrast, due to statistical efficiency reasons, they did not support including variables that are related to the exposure, but not to the outcome [5]. The criteria recruited for covariate selection when constructing the PS model in this study have not been stated. Moreover, it would be interesting for readers to have some information regarding the utilized methods for assessing the adequacy of the final PS model.

Finally; The comparability between the study groups is a necessary criteria for making a valid conclusion regarding the validity of the study results when performing PS analysis [6]. Because of the limitation of the usual statistical test, i.e., Student’s *t* test or χ^2 test, the standardized difference has been suggested for assessing the covariate balance between the study groups when performing the PS analysis. However, it seems that the authors have not employed an appropriate criterion for assessing the comparability between the study groups.

Without the above information, it would be optimistic to draw a valid conclusion regarding the validity of the study findings. Therefore, we recommend clarifying the enumerated issues when interpreting the study findings.

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Compliance with ethical standards

Conflict of interest The authors have no potential conflict of interest relevant to the present study.

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