

[LETTERS TO THE EDITOR]

Comment on: Clinical Characteristics of Severe Erosive Esophagitis among Patients with Erosive Esophagitis: A Case-control Study

Key words: case-control studies, multivariate analysis, bias (epidemiology)

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To the Editor Dear Editor-in-Chief,

We read the article written by Ida et al. published in the *Internal Medicine* (1). The authors' aim was to evaluate the risk factors associated with the endoscopic severity of esophageal mucosal injury (1). Their results showed that a poor performance status (PS) [odds ratio (OR)=17.1, 95% confidence interval (CI)=3.0268-140.3121, p=0.0008] and an abnormal gastroesophageal flap valve (GEFV) (OR=3.02, 95% CI=1.06-9.5, p=0.04) were risk factors for severe erosive esophagitis. Although the current study makes valuable contributions to the subject area, some methodological points need to be considered.

Several researchers have stated that a large measure of association with a wide CI does not necessarily indicate a large effect; this result may be attributable to the lack of sufficient data for the different combinations between the independent and dependent variables. In addition, multivariate

models are more susceptible to sparse data because the number of combinations between the independent and dependent variables is higher than in corresponding univariate models (2, 3).

In situations in which the number of the events is low in one of the combinations, a sparse data bias is expected. This bias can be removed or reduced in the analysis stage, and several statistical methods have been proposed to address this problem (2).

The authors state that they have no Conflict of Interest (COI).

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References

1. Ida T, Inamori M, Inoh Y, et al. Clinical characteristics of severe erosive esophagitis among patients with erosive esophagitis: a case-control study. *Intern Med* **56**: 1293-1300, 2017.
2. Greenland S, Mansournia MA, Altman DG. Sparse data bias: a problem hiding in plain sight. *BMJ* **352**: i1981, 2016.
3. Ayubi E, Safiri S. Risk factors for surgical site infections following neurosurgical spinal fusion operations: a case-control study-methodological issue. *Infect Control Hosp Epidemiol* **38**: 1013-1014, 2017.

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