

Survival analysis in patients with ischemic stroke

Tomoyuki Kawada

Published online: 23 January 2015
© Springer Science+Business Media New York 2015

To the Editor,

Swarowska et al. [1] conducted a follow-up study on the effect of hyperfibrinogenemia on mortality in patients with ischemic stroke. The authors set 736 patients as baseline data with median age of 71 years old, who were patients admitted within 24 h after stroke. Plasma fibrinogen was measured on the 1st day of hospitalization, and hyperfibrinogenemia was defined as plasma fibrinogen concentration >3.5 g/L. The authors followed the patients with maximum periods of 84 months and minimum of 12 months. The number of hyperfibrinogenemia was 184 (25.0 %) from 736 patients, and adjusted hazard ratio (HR) [95 % confidence interval (CI)] of hyperfibrinogenemia for mortality was 1.71 (1.29–2.26) by multivariate analysis. I have some queries on their study.

First, the authors adopted Cox's proportional hazard model for the multivariate analysis in "Materials and methods". As the authors described completed and censored cases in Fig. 1 of Ref. [1], I think that "multiple logistic regression analysis" in their "Abstract" is a mistake. In addition, the likelihood values of survival in Fig. 1 of Ref. [1], are zero in patients with normofibrinogenemia and with hyperfibrinogenemia, respectively. This means that all the 736 patients died or censored within 84 months of follow-up. As I cannot count the numbers of death or censored cases from Fig. 1 of Ref. [1], please show these data.

Second, HR (95 % CI) of smoking for death by univariate analysis was 0.69 (0.54–0.89). Is this mean that

smoking habit is related to the prevention of death in patients with ischemic stroke? I suppose that this significance disappeared after multivariate analysis from the description in the last paragraph of their "Results". I recommend including study outcomes from multivariate analysis in Table 2 of Ref. [1].

Finally, please include the type of medications on ischemic stroke in another study. It is amazing that all the patients reached the endpoints, including censored cases, and the maximum of 7-year interval after ischemic stroke seems short survival in the present medical conditions. It is also useful specifying the place of stroke to know the outcome after ischemic stroke [2].

Conflict of interest None declared.

References

1. Swarowska M, Polczak A, Pera J, Klimkowicz-Mrowiec A, Slowik A, Dziedzic T (2014) Hyperfibrinogenemia predicts long-term risk of death after ischemic stroke. *J Thromb Thrombolysis* 38:517–521
2. Mullen MT, Pisapia JM, Tilwa S, Messé SR, Stein SC (2012) Systematic review of outcome after ischemic stroke due to anterior circulation occlusion treated with intravenous, intra-arterial, or combined intravenous + intra-arterial thrombolysis. *Stroke* 43:2350–2355

T. Kawada (✉)
Department of Hygiene and Public Health, Nippon Medical
School, 1-1-5 Sendagi, Bunkyo-ku, Tokyo 113-8602, Japan
e-mail: kawada@nms.ac.jp