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## Letter to the Editor

## Predictors of respiratory impairment in patients with myotonic dystrophy type 1



## ARTICLE INFO

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## Dear Editor,

Rossi et al. conducted a cross-sectional study to evaluate predictors of respiratory impairment in 268 patients with myotonic dystrophy type 1 (DM1) [1]. Restrictive respiratory syndrome (respiratory impairment) was defined as forced vital capacity (FVC) < 80%, and 139 patients (51.9%) showed having impairment. In multivariate analysis, score of muscular impairment rating scale (MIRS) and mean cytosine-thymine-guanine nucleotide (CTG)<sub>n</sub> values in leukocytes were selected as significant predictors for respiratory impairment. They concluded that the severity of muscle impairment and the CTG expansion size were confirmed as important predictors of respiratory impairment. I have some concerns about their study.

First, Hawkins et al. conducted a systematic review on the natural history of respiratory dysfunction in patients with DM1 and the role of central respiratory drive and peripheral respiratory muscle involvement on respiratory dysfunction has been verified [2]. Although alveolar hypoventilation, chronic hypercapnia and sleep related disordered breathing existed, its mechanism, the natural history and time-course of respiratory functional decline has poorly understood. A cross-sectional design has a limitation to verify causal relationship, and a prospective design should be conducted to evaluate predictors of respiratory impairment in patients with DM1.

Second, Thil et al. conducted a retrospective cohort study to evaluate the change of pulmonary function in patients with DM1 [3]. During the mean of 9 years of follow-up, the average annual change in FVC was  $-0.034 \pm 0.06$  L ( $-0.72 \pm 1.7\%$  predicted). Forced expiratory volume in 1 s and total lung capacity were also slowly progressive. These facts mean that there is a difficulty of conducting a prospective study to evaluate predictors of respiratory impairment in patients with DM1.

Finally, the authors should present the method of multivariate analysis. I suppose that they selected binary logistic regression analysis.

Alternatively they could select multiple regression analysis, because FVC was a continuous variable and FVC < 80% would not be always adopted as the cut-off point of respiratory impairment. Anyway, further study is needed to verify the predictors of respiratory impairment in patients with DM1.

## Disclosure statement

The author has indicated no financial support.

## Conflicts of interest

There is no conflict of interest in this study.

## References

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Tomoyuki Kawada

Department of Hygiene and Public Health, Nippon Medical School, 1-1-5  
Sendagi, Bunkyo-Ku, Tokyo 113-8602, Japan  
E-mail address: [kawada@nms.ac.jp](mailto:kawada@nms.ac.jp).

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