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Letter to the Editor

Is there a significant association between tumor necrosis factor alpha -863C/A polymorphism and the development of Guillain-Barré Syndrome?

Dear Editor,

In the article published in 2017, in the Journal of Neuroimmunology, titled *"Tumor necrosis factor-alpha -863C/A polymorphisms and expression in Guillain-Barré syndrome"* a case-control study was conducted to assess the association between tumor necrosis factor alpha (TNF-α) gene polymorphisms and the presence of Guillain-Barré Syndrome (Isart et al., 2017).

In the materials and methods section, an age range was not applied as a selection criterion for cases and controls, including people with extreme ages from 4 to 60 years in the cases, and from 17 to 75 in the controls. The evidence shows that the distribution of GBS varies with respect to the age factor (Van den Berg et al., 2014). The incidence of this syndrome increases with age, being less frequent in children. Heterogeneity in the probability of disease acquisition can affect the data analysis, since by including people from the childhood age group, it can alter the odds ratio value of the study variable (Fletcher et al., 2019).

Regarding to the results section, the characterization of the population was performed, describing the variables of sex, age, geographic area, symptomatic history, severity of the GBS symptoms, subtypes and a serum determination of antibodies against GM-1. The frequency in the case of qualitative variables was described, and the median and range in the case of the age variable. However, no comparison test was performed for independent groups in order to demonstrate the existence of significant differences in the variables of both groups. This omission may affect the internal validity of this study, by ignoring one validity criteria: the similarity in both groups except in the variable of interest (whether the disease is present) (Fletcher et al., 2019; Lewallen and Courtright, 1998).

Some of the differences observed between both groups were in the variables age (median of 34 years and range of 17–75 years for controls; median of 28 years and range of 4–60 years for cases) and sex (proportion male/female 3:1 in cases and 1:1 in controls). The assessment of the significance of these differences is essential to determine if the selection of the groups was carried out correctly.

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