

qEEG and Alzheimer's disease

qEEG e doença de Alzheimer

Ángel Golimstok, Juan Ignacio Rojas, Edgardo Cristiano

Dear Editors,

We read with great interest the article published by Fonseca et al. about the contribution of quantitative electroencephalographic (qEEG) analyses in the diagnosis of Alzheimer's disease (AD)¹. In this article, the authors concluded that the study of coherence and power in the qEEG showed a relatively limited accuracy, with respect to its application in the routine clinical practice. Beyond this great paper, some concerns arouse regarding methodological issues of the research.

First of all, the authors state that one exclusion criterion was "a score lower than 4 on the Hachinski scale in order to minimize the possibility of vascular disease and focal lesions in the neuroimaging exams". We believe that it is a type error because if "Hachinski scale lower

than 4" was an exclusion criterion, all patients included were higher than four, so patients with vascular dementia were included². Second, it is very difficult to explain a Control Group with significant lower education compared to AD patients, mainly because this variable might affect on MMSE and, precisely, this instrument was used to differentiate cases from control patients³. Finally, another issue to point and to analyze when results are discussed is the fact that depression was not consider in exclusion/inclusion criteria, considering that such condition could affect on EEG in patients with dementia as previously reported⁴.

Despite these issues, we consider that the paper is very interesting, as well as a novel research that wakes up a renew interest of qEEG in the diagnosis of AD patients. Our congratulations to the authors.

References

1. Fonseca LC, Tedrus GM, Prandi LR, Andrade AC. Quantitative electroencephalography power and coherence measurements in the diagnosis of mild and moderate Alzheimer's disease. *Arq Neuropsiquiatr* 2011;69:297-303.
2. Hachinski VC, Iliff LD, Zilhka E, et al. Cerebral blood flow in dementia. *Arch Neurol* 1975;32:632-637.
3. Caramelli P, Herrera E Jr, Nitrini R. O mini-exame do estado mental no diagnóstico de demência em idosos analfabetos [The Mini-State Examination and the diagnosis of dementia in illiterate elderly]. *Arq Neuropsiquiatr* 1999;57(Suppl 1):S7.
4. Pozzi D, Golimstok A, Petracchi M, Garcia H, Starkstein S. Quantified electroencephalographic changes in depressed patients with and without dementia. *Biol Psychiatry* 1995;38:677-683.

Servicio de Neurología, Hospital Italiano de Buenos Aires, Buenos Aires, Argentina.

Correspondence: Ángel Golimstok; Servicio de Neurología, Hospital Italiano de Buenos Aires, Perón; 4190,1181 Buenos Aires - Argentina; E-mail: angel.golimstok@hospitalitaliano.org.ar

Conflict of interest: There is no conflict of interest to declare.

Received 03 January 2012; Accepted 11 January 2012