Alzheimer electroencephalogram temporal events detection by K-means

Pedro Miguel Rodrigues\textsuperscript{a}, Diamantino Freitas\textsuperscript{a}, João Paulo Teixeira\textsuperscript{b}

\textsuperscript{a}University of Porto, Porto, Portugal
\textsuperscript{b}Polytechnic Institute of Bragança, Bragança, Portugal

Abstract

Alzheimer Disease (AD) is a chronic progressive and irreversible neurodegenerative brain disorder. Its diagnostic accuracy is relatively low and there is not a biomarker able to detect AD without invasive tests. This study is a new approach to obtained electroencephalogram (EEG) temporal events in order to improve the AD diagnosis. For that, K-means were used and the results suggested that there are sequences of EEG energy variation that appear more frequently in AD patients than in Health subject.

Keywords: Alzheimer disease; electroencephalogram; temporal events; sequences; K-means;

Full paper available online at SciVerse ScienceDirect (www.sciencedirect.com).