

Poster presentation

Detecting higher cortical function in patients with pervasive vegetative or minimally conscious state with qEEG coherence

Efthymios Angelakis*¹, Eleftheria Dede^{1,2}, Evangelia Liouta^{1,2}, Panayiotis Patrikelis^{1,3}, Theophanis Flaskas², Stylianos Gatzonis^{1,2} and Damianos Sakas^{1,2}

Address: ¹Hellenic Center for Neurosurgical Research, "Prof. Peter S. Kokkalis", Athens, Greece, ²Department of Neurosurgery, University of Athens Medical School, Athens, Greece and ³Department of Psychiatry, University of Ioannina, Ioannina Greece

* Corresponding author

from International Society on Brain and Behaviour: 3rd International Congress on Brain and Behaviour
Thessaloniki, Greece. 28 November – 2 December 2007

Published: 17 April 2008

Annals of General Psychiatry 2008, **7**(Suppl 1):S359 doi:10.1186/1744-859X-7-S1-S359

This abstract is available from: <http://www.annals-general-psychiatry.com/content/7/S1/S359>

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Background

Patients with Pervasive Vegetative State (PVS) or Minimally Conscious State (MCS) seem isolated from the external environment, mostly based on evidence from their inability to respond.

It is possible that some of these patients suffer from motor deficits that deprive them the ability to express themselves, but have some remaining perceptual abilities that cannot be observed. To date, such perceptual abilities have been detected with the use of Event Related Potentials (ERPs). The present study presents pilot data of an alternative method with the use of electroencephalic (EEG) coherence.

Materials and methods

Electroencephalic coherence was calculated for digitized EEG recordings from four patients with Pervasive Vegetative State (PVS) or Minimally Conscious State (MCS), while the patients listened to lists of words with personally related or unrelated content.

Results

Three out of four patients showed similar patterns of EEG coherence reactivity to the personally related words.

Discussion

The present pilot data suggest that EEG coherence may be a simple but sensitive tool to detect higher cognitive functions in seemingly unresponsive patients.