



# ECNS 2010

September 14 - 18, 2010 / Hilton Hotel - Istanbul / TURKEY

**ECNS / ISBET / ISNIP Joint Meeting**

Honored by  
Turkish President Abdullah Gül

(ECNS) EEG & Clinical Neuroscience Society,

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# ECNS / ISBET / ISNIP Joint Meeting 2010 ABSTRACT BOOKLET

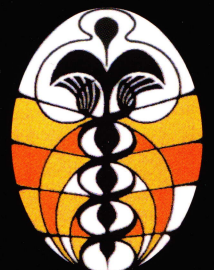
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Results and Discussion: Among our 1300 case series, the benefits of remaining within the boundaries of evidence-based medicine have been the following: 1. By developing ethical standards it has been possible to maintain the patient's treatment satisfaction at the optimal level. 2. Since patient safety has been successfully maintained at the optimal level, the requirement of keeping the patient away from harm has been established.

## The Relationship between Neuropsychological Evaluation and Volumetric MRI findings in Alcohol Dependent Patients

**Nuhoğlu S, Akça Z, Bayram A, Tunçel M, Çengel SM, NPISTANBUL Neuropsychiatry Hospital, Turkey**

Long term alcohol use results in numerous cognitive dysfunctions in functional processing such as learning and memory, visuo-spatial functioning and abstraction. As shown in research, alongside memory propellant functions, attention and visuo-spatial functions also show deterioration, in alcohol dependent patients (B.Demir et al.). It has been noted that the prevalence of cognitive dysfunction related to alcohol abuse is %50-70. The severity of cognitive dysfunctions can range from mild cognitive dysfunction to amnesic dysfunction to dementia. The largest predictor of memory deterioration in a clinic setting is anterograde amnesia. The slow progress of memory defects or having other symptoms in the spotlight may cover up the complaints about memory. Because functional processes are affected by alcohol, patients might not be aware of their situations. This might result in patients late consultations with their doctors. The goal of our study was to display that neuropsychological tests are primary when testing the patients' cognitive processes.

Throughout the research done using different techniques, the most sensitive brain areas are especially the frontal lobe neocortex along with the limbic system and cerebellum (Sullivan, E. V. 2003). These areas are also important for memory and learning. Short-term memory and working memory is related with parietal and prefrontal cortex, information coding is related with the limbic system, knowledge storing is related with the cerebral cortex and recalling information is related with the prefrontotemporal network (M.M.Mesulam.2004). Memory deterioration resulted with alcohol dependence has a general acceptance that it is a result of the direct neurotoxic effect of alcohol or the effect it may have on eating problems (B.Demir et al.). Eventhough memory dysfunctions based on alcohol consumption have been displayed, the question that doesn't have a frequent answer in literature is if memory dysfunctions have a relation with volume loss in related areas.

This retrospective study was done for 10 patients that received treatment for alcohol dependency at our hospital between November 2009-June 2010. These patients all had diagnoses of Alcohol dependency according to the criteria of the DSM-IV manual and patients history were analyzed to make sure that they did not have any other comorbid psychiatric illnesses. All the patients' cognitive and memory functions were assessed using the following neuropsychological tests: WAIS-memory, Verbal Memory Processes, Benton Face Recognition, Boston Naming, verbal fluency, Luria Alternating Drawings, and the Stroop Task. Once all the patients were evaluated by the neuropsychologist they received volumetric MRI tests via the 1.5 Tesla Phillips MRI device that is available at our hospital. The findings of this study are still being analyzed and will be determined within a month.

## Event-related potentials and oscillations during oddball task in Parkinson patients with PARK2 gene mutations

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Clinical signs of genetically cascading Parkinson disease (PD) are very similar to those of idiopathic PD, however genetic PD has a somewhat earlier onset followed by a slow progress. In this study, we aimed to investigate the cognitive decline in PD by comparing the event-related potentials and oscillations from PD patients with parkin (PARK2) gene mutation (PM), healthy controls and idiopathic PD patients with early and late onset. Event related EEG epochs were recorded while subjects performed an auditory oddball task. Wavelet transform is used to investigate the oscillatory activity in the EEG data. In target-ERPs, P300 amplitudes were significantly reduced in all 3 PD groups compared with control subjects ( $p < 0.01$ ), while there was no significant difference among the 3 PD sub-groups. Evoked and total delta activity (peaking around 300 ms) in response to target stimuli were diminished in all PD groups compared with the controls ( $p < 0.01$ ,  $p < 0.001$ ), while total theta activity (peaking around 150 ms) was reduced only in the PM group ( $p = 0,001$ ). This fronto-centrally located reduction of theta activity may reflect the specific neurodegenerative process in PD with PARK2 gene mutations.



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## Abstracts continued from Vol. 41, No. 4, October 2010 issue of Clinical EEG and Neuroscience

### Poster

#### Event-Related Potentials and Oscillations During Oddball Task in Parkinson Patients With PARK2 Gene Mutations

Atilla Uslu, Hasan Demirci, Hasmet Hanagasi, Tamer Demiralp, Istanbul University, Istanbul, Turkey  
Mehmet Ergen, Acibadem University, Istanbul, Turkey

Clinical signs of genetically cascading Parkinson disease (PD) are very similar to those of idiopathic PD, however genetic PD has a somewhat earlier onset followed by a slow progress. In this study, we aimed to investigate the cognitive decline in PD by comparing the event-related potentials and oscillations from PD patients with parkin (PARK2) gene mutation (PM), healthy controls and idiopathic PD patients with early and late onset. Event related EEG epochs were recorded while subjects performed an auditory oddball task. Wavelet transform is used to investigate the oscillatory activity in the EEG data. In target-ERPs, P300 amplitudes were significantly reduced in all 3 PD groups compared with control subjects ( $p < 0.01$ ), while there was no significant difference among the 3 PD sub-groups. Evoked and total delta activity (peaking around 300 ms) in response to target stimuli were diminished in all PD groups compared with the controls ( $p < 0.01$ ,  $p < 0.001$ ), while total theta activity (peaking around 150 ms) was reduced only in the PM group ( $p = 0.001$ ). This fronto-centrally located reduction of theta activity may reflect the specific neurodegenerative process in PD with PARK2 gene mutations.

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