NEUROPSYCHIATRY AND BEHAVIORAL NEUROLOGY

[Abstract:0380] Neuropsychiatry and behavioral neurology

Relationship between plasma homocysteine levels and cognitive functions in Parkinson's patients

Esha Yancar Demir¹, Yasemin Kaya², Feriha Ozer³, Sema Ayyildiz⁴

¹Department of Psychiatry, Ordu University, Faculty of Medicine, Ordu-Turkey
²Department of Internal Medicine, Ordu University, Faculty of Medicine, Ordu-Turkey
³Department of Neurology, Medipol University, Faculty of Medicine, Istanbul-Turkey
⁴Department of Biochemistry, Ordu University, Faculty of Medicine, Ordu-Turkey

Objective: In this study, we aimed to research the relationship between homocysteine levels and cognitive functions in IPD and to find out whether cognitive functions in IPD were associated to age, disease duration, age of disease onset, stage, the Unified Parkinson Disease Rating Scale (UPDRS) vitamin B12, folic acid and to assess the impact of entacapone on plasma levels of hcy, vitamin B12 and folate levels and MMSE scores in IPD.

Methods: Forty-two patients with IPD (26 male, 16 female) who attended our movement disorders outpatient clinic were included in this study. The diagnosis of IPD was confirmed by a movement disorders specialists in Neurology, according to UK Parkinson's Disease Society Brain Bank Criteria. First of all the hcy, folic acid and vitamin B12 levels and the results of screened cognitive evolution by mean MMSE of IPD patients were compared with those of the controls. Then patients were divided in two groups: 1) patients treated with only L-Dopa 2) patients treated with L-Dopa and entacapone combination. The hcy, folic acid and vitamin B12 levels of the patients with levodopa and levodopa+entacapone groups and the control group were compared.

Results: Sixteen patients with IPD receiving levodopa+entacapone treatment, 28 patients with IPD receiving only levodopa treatment and 26 healthy subjects were included in this study. MMSE scores were higher in the only L-dopa treated group than in the entacapone+L-dopa treated group and also the control group (27.23±3.03, 25.81±1.97, 26.23±1.96 p=0.004 p=0.006, resp.). There was no significant difference between the entacapone+levodopa treated group and the control group in post-hoc analysis (p=0.29). Homocysteine levels were found higher in the only L-dopa treated group than the other groups. (14.67±4.83, 12.74±3.28, 12.81±3.26 p=0.34, resp.).

Conclusion: Our study shows that patients treated with L-DOPA have increased HCY concentrations, which is thought to be dose-dependent, and combination with entacapone may decrease homocysteine levels in PD patients. However, we found no correlation between cognitive impairment, hcy levels and stage of disease, age of onset of the disease, or duration of the disease.

Keywords: homocysteine, levodopa, cognitive impairment

[Abstract:0382] Neuropsychiatry and behavioral neurology

The relation of depression and anxiety to homocysteine and clinical features of Parkinson's disease

Esha Yancar Demir¹, Yasemin Kaya², Feriha Ozer³

¹Department of Psychiatry, Ordu University, Faculty of Medicine, Ordu-Turkey
²Department of Internal Medicine, Ordu University, Faculty of Medicine, Ordu-Turkey
³Department of Neurology, Medipol University, Faculty of Medicine, Istanbul-Turkey

Objective: In this study, we aimed to find out whether depressive and anxiety symptoms were influenced by homocysteine (Hcy) and whether depressive and anxiety symptoms in IPD were associated with age, disease duration, age of disease onset, stage, the Unified Parkinson Disease Rating Scale (UPDRS), and to assess the impact of drugs used in parkinsonism on Hamilton depression (HAMD) and anxiety (HAMA) rating scales in IPD.

Methods: Forty patients with IPD (27 male, 13 female) and twenty-one healthy subjects (6 male, 15 female) who attended our movement disorders outpatient clinics were included in this study. The diagnosis of PD was confirmed by a movement disorders specialists in Neurology, according to UK Parkinson's Disease Society Brain Bank Criteria. The HAM-D and HAM-A rating scales were administered to
Parkinson patients and healthy subjects. Anti-parkinsonian treatments were recorded and the total daily dose of levodopa was calculated for each patient. Homocysteine levels were measured in Parkinson's patients and in healthy subjects.

**Results:** Rates of 92.5% (n=37) severe depression and 62.5% (n=25) mild anxiety were found in Parkinson's patients. There was no difference between Parkinson's patients and the control group in depression (p=0.78). There was higher mild anxiety in Parkinson's patients than in the control group (p=0.05). There was no correlation between Homocysteine level and HAM-A-HAM-D (r=0.009 p=0.95 r=0.24 p=0.12, respectively). However, there was a positive correlation between HAM-D and UPDRS total, UPDRS motor sections, UPDRS activities of daily living (r=0.45 p=0.006 r=0.38 p=0.002 r=0.47 p=0.004, respectively). Also there was a positive correlation between HAMA and UPDRS total, UPDRS activities of daily living, UPDRS cognitive, UPDRS complication of treatment (r=0.41 p=0.01 r=0.51 p=0.001 r=0.38 p=0.02 r=0.32 r=0.05, respectively). The subgroups of drugs (levodopa+ dopa decarboxylase enzyme inhibitor (DDEI), levodopa+DDEI+entacapone, and other drugs) were compared to each other; equivalent dose and significant difference were found in terms of mean levodopa dosage (p=0.007). The Levodopa+DDEI subgroup had a higher mean levodopa dosage than levodopa+DDEI+entacapone and other drug subgroups. Although statistically insignificant, there were higher levels of hcy, HAM-A and HAM-D in the L-Dopa+DDEI subgroup.

**Conclusion:** In our study, comparing Parkinson patients and the normal control group, we found no significant relationship between depression scores but significantly higher scores of mild anxiety in Parkinson's patients compared to the control group. There were no correlations between Hcy levels and HAM-A and HAM-D scores. Although statistically insignificant, when equivalent dosage estimation was done, HAM-A and HAM-D scores were higher in the group having the highest mean levodopa dosage. Thus this subject needs to be evaluated in another study with a large number of patients.

**Keywords:** Parkinson's disease, homocysteine, depression and anxiety


---

**[Abstract:0429] Neuropsychiatry and behavioral neurology**

**Anxiety sensitivity, alexithymia, and anger among patients complaining of migraine-type headache**

Selim Polat¹, Cicek Hocaoglu¹, Serkan Kirbas², Ahmet Tufekci²

¹Department of Psychiatry, Recep Tayyip Erdogan University, Faculty of Medicine, Rize-Turkey
²Department of Neurology, Recep Tayyip Erdogan University, Faculty of Medicine, Rize-Turkey
e-mail address: Cicekh@gmail.com

**Objective:** In this study, alexithymia, anxiety sensitivity, and state-trait anger scale test scores were compared between patients with migraine-type headache and individuals in a healthy control group.

**Methods:** One hundred patients with migraine-type headache who applied to Recep Tayyip Erdogan University Training and Research Hospital Neurology Clinic successively between the 1st of January 2013 and the 1st of June 2013 and fulfilled the criteria for participating in the study and 100 healthy voluntary individuals participated in the study. The Socio-Demographic Data Form, SCID-1, the Anxiety Sensitivity Index (ASI), the Toronto Alexithymia Scale (TAS), and the Spielberg State-Trait Anger Scale and Anger Expression Inventory were administered to all phenomena included in the study.

**Results:** Sixty-five percent of the patients with migraine were female, while 35(35%) of them were male. Of the control group, 57 (57%) were female, and 43(43%) were male. The average age in the patient group was 37.87±7.8 (25-56) years and in the control group 36.91±6.2 (25-55) years. Psychiatric comorbidity was prevalent in the patient group with migraine-type headache at 56%. Comparison based on average scores in ASI, TAS and the Spielberg State-Trait Anger Scale and Anger Expression Inventory revealed that the scores of the patient group were significantly higher than those of the control group. The patient group had higher scores in comparison to the control group in the Anger Expression Inventory. In addition, a significant difference was detected between two groups in terms of anger expression and anger management. It was seen there was a significant relationship between TAS and trait anger, anger introjection, and anger expression scores.

**Conclusion:** It was found that many psychological symptoms accompanied the clinical picture among patients with migraine-type headache. These psychological symptoms, which affect patients' current treatments and the course of disease, may frequently escape the notice of clinicians or be diagnosed wrongly. The present study reveals the necessity of consultation and liaison among clinics.

**Keywords:** migraine type headache, anxiety sensitivity, alexithymia

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S149**