

## Differential Alterations in the Attentional Networks of People Living with HIV and Apathy: Preliminary Results and Pharmacoclinical Impact

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### Abstract

**Objective.** The objective was to determine alterations in the care of people living with human immunodeficiency virus (PLHIV) with depressive disorder without and with apathy to determine differential parameters.

**Methods.** We studied 69 PLHIV, negativized viral load, of both sexes (19 women and 44 men), with depressive disorder (F32.9-DSM IV), 20 with apathy and 26 without apathy; negativized viral load, in highly effective antiretroviral treatment without therapeutic failure in the last 2 years and without protease inhibitors; without psychopharmacological treatment (except anxiolytics) or dementia due to HIV (American Academy of Neurology) or comorbidities (hepatitis C, CNS or central vascular infections). They were evaluated with MINI, Hamilton Depression Rating Scale, Apathy Evaluation Scale clinical version and Neuropsychiatric Inventory and neuropsychological tests were applied (Stroop, Trail Making A and B, digit-symbol substitution test, Visual and verbal direct digit span test, BTS-1 and BTS-3). Statistical tests were applied, and ethical-legal standards were met.

**Results.** PLHIV with depressive disorder had a high prevalence of apathy. In patients with apathy, there was a greater significant alteration, according to decreasing differential involvement, in sustained and divided care. The processing speed was slowed down without significant difference in the apathy group. Selective attention did not show significant differences between groups.

**Conclusions.** Apathy in patients living with HIV with depression presents specific and differential alterations in the attention domain. The alterations of sustained and divided attention were specific in this group, with affectation of the previous attention circuit and would be related to the subsequent cognitive disruption as a prodrome. These characteristics must be taken into account as the basis for establishing interdisciplinary treatment strategies (psychopharmacological, psychotherapeutic and neurocognitive rehabilitation).

**Keywords:** HIV; Depression; Apathy; Attention

## Clinical Pharmacology of Hyperammonemia by Sodium Valproate and Carbamazepine in People Living with HIV

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### Abstract

**Introduction.** Hyperammonaemia (HA) is observed in decompensated liver disease. The picture of hyperammonemic encephalopathy in non-cirrhotic patients was reported mostly associated with valproic acid. There are few reports of hyperammonemia in people living with human immunodeficiency virus (PLHIV) and they are associated with other comorbidities and few with antiretrovirals (HAART), but not as adverse drug reactions associated with psychotropic drugs associated with the virus.

**Objective.** Report of cases of PLHIV in HAART with hyperammonemia, its clinical impact and ammonium levels.

**Materials and Methods.** We report 67 PLHIV in treatment with HAART, negative viral loads, psychopharmacological treatment with valproic acid (n=45) or carbamazepine (n=22). Exclusion criteria were = HCV, HBV and alcohol consumption disorder (current or recent history) and decompensated liver pathology. We apply scales to evaluate side effects (UKU), subjective adherence (DAI), daily life activities (Barthel Index), liver severity (Child-Pugh Classification) and degrees of hepatic encephalopathy (West Haven Scale). The ethical-legal requirements were met. Results: 26.86% presented hyperammonemia, among which 38.88% was symptomatic. The clinical presentation was heterogeneous with a higher prevalence of gastrointestinal and cognitive alterations; the most severe cases presented alterations of the sensorium and 1 case of convulsions. We recorded a greater symptomatic severity with carbamazepine (average ammonia =104.4 pmol/L), but a higher prevalence of non-symptomatic hyperammonemia with valproic acid (62.3 pmol/L). The time of onset of symptoms was lower with carbamazepine, but the time until its decrease was higher with valproic acid.

**Conclusions.** We observed a higher prevalence of hyperammonemia and associated symptomatology in PLHIV with HAART medicated with carbamazepine. The significant percentage of this adverse drug reaction suggests a biochemical, perhaps preventive, control.

**Keywords:** HIV; Hyperammonemia Divalproate sodium Carbamazepine Antiretrovirals