Cognitive Stimulation in a patient with Wernicke - Korsakoff Syndrome: maintaining the functionality

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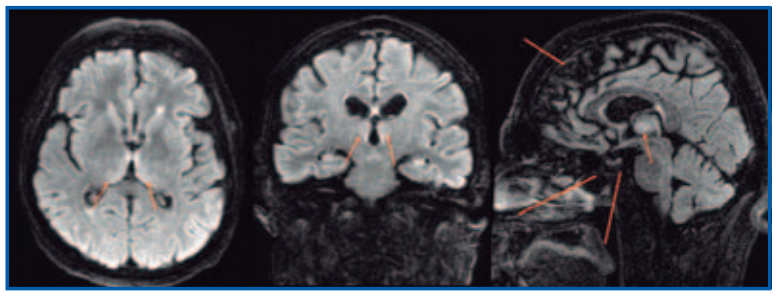
Introduction

Alcohol is considered the responsible of most cognitive impairments caused by drugs. Neurotoxic effect and the malnutrition associated with its consumption affect both directly and indirectly the central nervous system (1). Alcoholic subjects with vitamine B1 (thiamine) deficiency develop Wernicke encephalopathy, an acute neuropsychological impairment that untreated will progress to an irreversible dementia called Korsakoff syndrome. Wernicke- Korsakoff Syndrome (WKS) is an amnesic disorder secondary to diencephalic injury within dorsomedial nuclei of thalamus, mammillary nucleus of thalamus and frontal cortex (2). It is characterized by spatial and temporary disorientation, amnesia, confabulations and false recognitions. Sensory and intellectual capabilities remain preserved. Cognitive disorders impair the functionality and reduce the autonomy (3). According to some studies, through neuropsychological rehabilitation treatment it could be restored lost functions and incorporate effective strategies to address the problems of daily life (4).

Image 1. Diencephalic lesions located in mammillary bodies, dorsomedial nucleus of the thalamus and frontal cortex in Wernicke-Korsakoff Syndrome



Objective

Verify the effectiveness of psychological stimulation in maintaining the functionality in a patient diagnosed with Wernicke- Korsakoff Syndrome although the preservation of cognitive disorders, in particular memory deficiencies.

Method

Patient identity: 52-years-old woman with history of severe alcohol- dependence admitted to Day Hospital for Dementias with the aim of maintaining cognitive and functional capabilities.

Reason for consultation: cognitive impairment, apathy and mild dependency on performing basic activities of daily life (BADL).

Evaluation instruments: neuropsychological exploration with Mini Mental State Examination (MMSE), basic activities of daily life (BADL) rating scales- Barthel index and Blessed scale- and instrumental activities of daily life (IADL) rating scales- Lawton-Brody index-. At the admission presented: disorientation in the three areas (space, time and person) and impaired ability of learning and memory (MMSE: 21/30), apathy and mild dependency on performing BADL (Barthel index: 85) and IADL (Lawton-Brody index: 2/8; Blessed scale: 5-1-3).

Goals intervention:

1. the cognitive capabilities maintainance.
2. the improvement and maintainance of behavior management, autonomy and functionality in daily life activities.
3. the enhancement of social interaction and incorporation in recreational activities to promote the motivation, activity and community adaptation.
4. the reduction of family load and the increase of life quality with family support.

Intervention strategies:

- Pharmacotherapy: aripriprazole
- Integrated psychostimulation program (IPP): therapeutic strategies based on cognitive neuropsychology and behavioural therapies. In advanced group doing stimulation tasks, everyday, 15 hours per week. **1.** cognitive activities training the memory and the language and improving the targeting of reality, **2.** leisure activities to promote social abilities, **3.** tasks to stimulate and maintain BADL and IADL through specific guides of supervision action carried out by the family (personal hygiene and dressing). TABLE 1
- Psychomotor intervention: exercises to improve postural stability.
- The interactive multimedia internet system (IMIS): using smartbrain, an interactive multimedia tool that includes stimulation exercises of attention, calculation, gnosis, language, memory and orientation.

Table 1. Integrated psychostimulation program

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
10:30 – 11:10	Psychomotor intervention	Dynamic activities in group	Record cards	Psychoestimulation with computer	Manipulative actitivies
11:20 – 12:10	Record cards	Manipulative activities	Psychoestimulation with computer	Artistic leisure	Dynamic activities in group
15:00 – 15:50	Dynamic activities in group	Record cards	Psychomotor intervention	Manipulative activities	Leisure
16:00 – 16:50	Individual leisure	Psychoestimulation with computer	Dynamic activities in group	Record cards	Leisure

Results

Mild multidomain cognitive impairments. Persistence of the cognitive deterioration (MMSE:18, temporal disorientation, reduced learning ability and working memory, little spontaneous speech and presence of confabulations), improvements in behaviour management and maintenance of the functionality (Barthel: 85, BDRS:9- maintenance in subscale B:1-, Lawton-Brody:2/8). TABLE 2

Table 2. Results obtained before and after the stimulation cognitive intervention

	BEFORE STIMULATION	AFTER STIMULATION
MMSE	21/30	18/30
BARTHEL INDEX	85	85
LAWTON BRODY INDEX	2/ 8	2/ 8
BLESSED SCALE	2.5- 1- 2	5- 1- 3

Conclusions

1. Preservation of cognitive disorders produced by the own irreversible lesions within diencephalic area.
2. Cognitive stimulation and occupational therapy program effectiveness to maintain functionality.
3. Social and recreational activities enrichment.
4. Need to continue the psychostimulation program.

References

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