

NEUROPSYCHOLOGICAL EVALUATION OF A KORSAKOFF PATIENT

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INTRODUCTION

Korsakoff's syndrome (KS) is a residual syndrome in patients who suffered from a Wernicke encephalopathy (WE), but did not receive immediate and adequate treatment with thiamine replacement therapy. The main cause of this psychiatric disorder is chronic alcoholism and the related malnutrition. The core symptom of KS is global amnesia, specially anterograde, but there are other cognitive and behavioural symptoms that characterize this disorder as apathy, flattened affect, confabulations, anosognosia and important impairment of executive functions. Although there are no accepted criteria for diagnosis either in DSM-5 or in ICD-10. The diagnosis of KS must be made considering a detailed patient anamnesis, medical analysis and an extensive neuropsychological exploration as the lesions that appear in neuroimaging tests in the acute phase usually fade. These lesions include gray and white matter volume deficits that specially affect diencephalic structures as anterior nucleus of the thalamus and the mammillary bodies. There is also a volume loss of the anterior part of the corpus callosum and affectation of cerebellum, periventricular gray matter and basal part of the prefrontal cortex.

OBJECTIVE

The aim of this work is to present the neuropsychological evaluation performed on a patient with suspected KS.

METHOD

Assessment of a clinical case.

A 55-year-old man with a history of chronic alcohol abuse and a concomitant diagnosis of an unspecified psychotic disorder, who was admitted to the hospital subacute unit in order to optimize the connection to outpatient mental health services and to study the case. The patient had been referred from the acute care unit after a month of admission due to the presence of bizarre or delusional ideas. Throughout the inpatient treatment, the referring psychiatrist suspected that the delusional ideas, focused on episodic autobiographical information, may be confabulations and requested different tests as a neuropsychological evaluation to reject a KS diagnosis.

A Wechsler Adult Intelligence Scale IV (WAIS-IV) was administered to assess the intelligence and cognitive ability as well as the following tests that conform the neuropsychological exploration: temporary-spatial-person orientation (Test-Barcelona-Revisado, TBR); perception (superimposed figures, Poppelreuter); memory (Wechsler Memory Scale-III word list); visuospatial functions (Relojes-Luria); visuoconstructive functions (Neuronorma cubes); intransitive ideomotor praxis and imitation of postures (TBR). Language: understanding execution of verbal orders (TBR) and denomination (Boston Naming Test). Executive functions: verbal semantic and phonetic fluency (Neuronorma) and cognitive flexibility (Wisconsin). Attention: sustained attention (inverse series TBR), alternating attention (Trail Making Test -B), attentional amplitude (Neuronorma forward digits), maintenance and manipulation of verbal information (Neuronorma backward digits). Premotor functions: sequences of postures and reciprocal coordination (TBR).

RESULTS

The results of the neuropsychological exploration are shown in **table 1**. The evaluated patient was spatio-temporally oriented but not in person. He presented a global alteration of the memory, constructive praxis as well as the majority of attentional and executive functions such as verbal semantic fluency, sustained and alternating attention and cognitive flexibility. Referring to the intelligence quotient (**table 2**), the patient presented an intellectual quotient within the normality. Specifically, the processing speed and verbal comprehension indexes were normal and the perceptual reasoning and working memory indexes were between the normal-low range. The subindexes showed very different scores, which could indicate the presence of cognitive impairment. In particular, similarities, matrix reasoning and arithmetic are the tasks with worse performance and these are related to the operation of the frontal lobe, impaired in this patient. The patient presented a cognitive profile compatible with a Wernicke-Korsakoff syndrome.

Table 1

FUNCTIONS			DIRECT SCORES	PE/PC
Orientation	Temporary		23/23	18
	Spatial		5/5	18
	Personal		5/7	2
Perception			10/10	PC 90
Memory	Remote memory		7/7	
	Verbal learning	Total A list	4	9
		Learning (A4-A1)	3	8
		Short term retention	5	4
		Long term memory	2	6
		Recognition	18	6
Visuospatial functions			4/4	PC 90
Visuoconstructive functions			2/6 6/18	5
Praxis	Intransitive ideomotor praxis		10/10	18
	Imitation of postures		8/8	18
Language	Understanding execution of verbal orders		15/16	7
	Denomination		47/60	9
Executive functions	Verbal semantic fluency		11	4
	Verbal phonetic fluency		10	7
	Cognitive flexibility		No categories	
Attention	Sustained attention		2/3	5
	Alternating attention		3'30	PC<10
	Attentional amplitude		6	11
	Maintenance and manipulation of verbal information		4	10
Premotor functions	Sequences of postures		6/8	7
	Reciprocal coordination		4/4	PC95

Table 2

FULL-SCALE IQ: 86									
Verbal IQ					Performance IQ				
Verbal Comprehension Index: 90			Working Memory Index: 85		Perceptual Organization Index: 85			Processing Speed Index: 97	
Vocabulary	Similarities	Information	Digit Span	Arithmetic	Block Design	Matrix Reasoning	Picture Completion	Digit Symbol-Coding	Symbol Search
9	5	11	8	7	8	6	9	10	9

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