

## DIAGNOSTIC INDICATORS OF DISSOCIATIVE AMNESIA: A CASE REPORT

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### INTRODUCTION

Dissociative disorders (DD) are described and defined both in the diagnostic system of the American Psychiatric Association (DSM IV-R) and in the World Health Organization (ICD 10). Regarding the particular case of cognitive processes related to memory, it is possible that memories are not integrated properly, resulting in a condition called "dissociative amnesia" (DA). This illness has been described as a functional disorder of memory, which presents a difficulty in recovering, and in some cases, in consolidating information from life events (episodic memory), without structural organic brain damage (Staniloiu et al. 2010).

There are currently a large number of publications on clinical studies that have sought to characterize DA; however, most of these are in relation to DA of the retrograde variety. Clinical cases of anterograde dissociative amnesia are rare (Kumar et al. 2007, Markowitsch et al. 1999). Case reports on DA (both retrograde and anterograde) are clinically relevant in order to better understand the characteristics of symptomatology and better diagnostic differentiation with respect to other psychiatric disorders involving dissociative symptoms (panic disorder, acute stress disorder, post-traumatic stress disorder, and borderline personality disorder (BDP) and factitious disorder (FD)).

The following describes a case of a woman who presents a significant inability to acquire and consolidate information regarding some daily life events, specifically those related to the handling of money and other valuable objects.

### CASE HISTORY

The patient is a fifty-three year old female, who separated from her spouse 10 years ago. She studied at university but currently works as a housewife. She receives income from rent and financial support from ex-husband. The native language of the patient is Spanish. She doesn't speak English.

The reason for the consultation was due to an amnesic syndrome, previously assessed by three neurologists. During these evaluations, organic etiology was discarded by magnetic resonance imaging contrast

brain (MRI) studies as well as standard electroencephalogram (EEG). The results of the MRI were completely normal (resolution=5.0 mm; FOV (field of view) =24x22). The EEG showed a mild, diffuse, and unspecific subcortical dysfunction.

During childhood the patient's parents were emotionally distant, so her older sister and a person who did housework at the home were in charge of her upbringing. As for her medical history, the patient has controlled hypercholesterolemia, uterine cervical dysplasia, mammoplasty (aesthetic: increased breast size), and appendectomy.

When discussing her psychiatric history, she describes possible mutism during childhood, a possible attention deficit disorder (both without formal diagnosis), and a possible depressive episode 12 years ago (which correlates to marital violence from her ex-husband). There is neither background of suicide attempts nor of substance abuse.

In the psychiatric evaluation, the patient reported progressive mnemonic problems going on for years. She describes states of episodic memory impairment relating not only to money misplacement, but also the misplacement of other objects of value that belonged to others. She cannot remember anything during or after performing these acts, which would indicate impairments in the registration of such information. She also expresses confusion with respect to these behaviors, along with feelings of guilt and anxiety. As a result of misplacement of money, she has suffered economic as well as familial problems. A family report indicates that the patient has carried out bank transactions from her personal account, withdrawing money which she then misplaces. Her semantic declarative memory was intact.

She describes herself as a quiet person-introverted, perfectionist, self-demanding, prone to feelings of guilt, controlling, doubtful, and prone to prolonged rumination. However, these features do not generate significant psychosocial dysfunction. She presents insomnia predominantly in the initiation stage of sleep and a marked decrease in appetite, without quantified decreases in body weight.

In the mental state examination, the patient was fully oriented. Her speech tends to be detailed but consistent. She shows feelings of anxiety, worry, depression, fatigue, along with feelings of guilt and a pessimistic

attitude about her future. She does not exhibit sensoriperceptual alterations nor does have thought disorders. The patient shows a good capacity for insight.

Finally, the psychosocial functioning of the patient is not significantly deteriorated. Nevertheless, she expressed having financial problems due to occasional forgetfulness and loss of money. The other dimensions of her social life were not severely deteriorated, however, due to her unemployment and erratically handled pension incomes, we noted a moderate family dysfunction.

### Diagnoses

- Dissociative disorder (dissociative amnesia) (DSM IV-R).
- Moderate depressive episode (ICD 10 diagnosis criteria and Depression guidelines of Ministry of Health, Chile, 2009).
- Possible borderline personality disorder (DSM-IV-R).

Individual psychotherapy and pharmacotherapy (antidepressant and anxiolytic) was administered. Additionally, psychometric testing was required to complement the diagnosis on the DA and possible BPD.

In subsequent evaluations, the patients' amnesic symptoms persisted. Her anxiety also continued, but to a lesser degree. As for depressed mood, there has been a gradual recovery process, without remission.

### RESULTS

The results are summarized in Table 1.

For WAIS-R, the patient had a total IQ of 108, which corresponds to the category "normal average." In the verbal scale, the subtests with the highest score were Arithmetic and Vocabulary. In regard to the scale manual, the best performance reflect a good conservation of visuomotor, visuospatial, somatosensory, and visuospatial learning as well as memory dimensions in the patient.

The patient's MMPI profile has 4 scales with scores equal to or greater than 70. These results indicate possible abnormal features in the patient. The Depression scale score of the patient is considered "very high" according to the instrument criteria. With respect to the Masculinity / Femininity scale, the score corresponds to "very high" and could indicate a low acceptance of female roles determined by their sociocultural context. For the Psychasthenia scale, the patient's score is in the range of "high," which indicates high levels of insecurity, anxiety, worry, and constant apprehension. Finally, in the Schizophrenia scale, the patient obtained a score that is within the range considered "high." Such a score would indicate that the patient tends to withdrawal and alienation.

**Table 1.** Applied assessments and main results

Applied instruments	Measuring functions	Main results
Dissociative Disorders Interview Schedule (DDIS)	Structured interview based on DSM-IV criteria for Dissociative Disorders	8/10 in psychiatric history; 8/10 in Major Depression Disorder symptoms; 5/8 in borderline personality disorder symptoms; 3/3 in Dissociative Amnesia; 5/13 in Dissociative Identity Disorder
Dissociative Experiences Scale (DES-II)	Evaluation of dissociative symptoms distinguishing four criteria: absorption, depersonalization, derealization and amnesia	Average score: 16.78.
Autobiographical Memory Interview (AMI)	Semistructured interview designed to measure personal past facts and evocation of specific events from subject's life	Personal semantic: 42.5 Autobiographic incidents: 22
Trail Making Test (TMT, A and B)	Attentional speed, sequencing, mental flexibility, visual search and motor function	Part A: 28.4 seconds Part B: 96 seconds
Rey Verbal and Auditory Test (RAVLT)	Immediate memory capacity, learning, interference phenomena and recognition memory	Total score: 48
Minnesota Multiphasic Personality Inventory (MMPI)	Determines personality profiles that help in the detection of psychopathology	Scales above 70: Depression: 83 Masculinity/Femininity: 79 Psychasthenia: 75 Schizophrenia: 70
Wechsler Adult Intelligence Scale (WAIS-R)	Cognitive functions associated to David Wechsler's intelligence factors. Among other indicators, it determines IQ.	Verbal IQ: 106 Performance IQ: 110 Total IQ: 108.

The results of the DDIS indicate problems in episodic memory, retrograde, anterograde, or mixed type. These conditions cannot be explained by the presence of medical conditions of any kind. In addition, the interview showed comorbidity with a recurrent depressive episode. The results are consistent with some personality characteristics of the BPD.

The patient in the DES-II has a mean score of 16.78 points. Scores  $\geq 30$  points are associated with a diagnosis of DD according to DSM-IV classification. The items that had higher scores were 25, 24, 17 and 9, which assess potential deficits in the acquisition and information retrieval process. These indicators tend to reflect possible symptoms for DA.

As for RAVLT, the total score obtained for the patient lies close to the population average (48.5 points), based on both age group (50 to 59 years) and gender. This indicates that the processes of short-term memory and learning remain intact in the patient.

The time taken for the patient to complete Part A of the TMT was 28.4 seconds. Such scores are within the normal parameters of the test (according to Anglo-Saxon and Latin American standardizations). The same occurred with Part B of the test, in which the time taken (93 seconds) is far from what is determined to be deficient ( $>273$  seconds). Therefore, we can assert that attention skills are not impaired in the patient.

Finally, according to the results of the AMI, we concluded that one aspect of the patient's autobiographical memory is severely affected. Compared to the "cut-off scores" in the population, the results obtained reveal abnormal deterioration in the ability to retrieve "semantic personal" information (people, places, and specific events). The disability is expressed more emphatically when the person tries to retrieve information acquired over 10 years or recently. In both cases the scores are, according to parameters set by the authors of the instrument, "definitely abnormal." The dimension of "autobiographical incidents" remains preserved.

## DISCUSSION

Our main objective was to distinguish clinical and psychometric characteristics of a case of DA. For this purpose, we used clinical and psychometric procedures, obtaining results that characterize the presence of DA. It should be noted that the psychiatric interview is the single most important part of the diagnostic evaluation process (WPA 2003, p. 40) and that "rating scales should never be used alone to establish a diagnosis or clinical treatment plan; they can augment but not supplant the clinician's evaluation, narrative, and clinical judgment" (APA 2006, p. 33).

Regarding the process of elimination of a possible organic origin of the amnesia, the results of applied evaluations allowed us to affirm the psychogenic

etiology of amnesia described. Considering that both WAIS and RMN were normal, and that the neurologic and psychiatric evaluation did not determine memory impairment permanently, we were able to clinically discard any cerebral organic disorder. Further, the patient does not present a Mild Cognitive Impairment (MCI) because her memory problems are confined to specific issues and a limited time period. In contrast, with MCIs the memory alteration is permanent and is relative to the overall daily life of a person.

For the particular case of suspected epilepsy, we clinically ruled out this condition due to the improbability that epileptic discharges arise and disturb recording information within the specific contexts of money misplacement.

In the psychometric results, it should be noted that the results of the DDIS and the DES II allowed us to confirm the hypothesis of DA, anterograde and retrograde type.

The information obtained by the AMI corresponds to "definitely abnormal," according to the nomenclature of the instrument.

Regarding the characteristics of the amnesic patient in question, specifically those related to the difficulties of encoding and consolidating episodic information, these were not psychometrically evaluated due to the limited availability of instruments designed to assess such conditions (Strauss et al. 2006).

The results obtained in the overall evaluation of the patient are consistent with other cases of DA published to date (Hennig-Fast 2008, Kopelman 1994, Kritchewsky 2004, Markowitsch 1997a,b).

The possible comorbidities that have been described in medical literature include psychiatric disorders involving dissociative symptoms, such as BPD. In the present case, the possibility of this diagnosis adequately correlates with the results obtained through the MMPI. Furthermore, considering that the AMI involves the recall of information that has a high emotional content, the symptomatology in question could be associated only as a symptom of BPD (criterion 9 of DSM IV-R). However, this possibility is ruled out, as dissociative symptoms in BPD are often associated with major stress conditions (Stiglmayr 2008).

Although in this case our main objective focused on confirming the diagnosis of DA, the importance of a differential diagnosis of both Malingering and Factitious Disorders (FD) should not be ignored. In the case of malingering, no specific instrument was used for ruling it out, since in the course of various clinical interviews, we did not detect the presence of an external benefit. On the other hand, the exclusion of FD with amnesia symptoms is a clinical challenge due to the difficulty of carrying it out, and to the unavailability of diagnostic tests to support this clinical entity (Smith 2010).

Finally, in relation to possible alterations of encoding and consolidating new information from the patient

(behaviors and decisions with regard to money and valuable objects), it seems necessary to discuss some theoretical considerations concerning DA of the anterograde type. In this disorder, the person is not able to encode and/or consolidate certain types of episodic information. Because the acquisition of information depends on the relative indemnity of attention processes and an adequate state of consciousness, DA possibly involves a problem in the information consolidation processes as a consequence of an altered state of consciousness (which in the present case was ruled out only during the application of the TMT). Considering the above, we propose that, in any case of anterograde DA, it is crucial to investigate the characteristics (presentation, duration, triggering factors, etc.) of altered states of consciousness underlying the disorder. However, since these alterations of consciousness can occur unexpectedly, it is difficult to investigate in a clinical setting, with limited time.

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**Conflict of interest :** None to declare.

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