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PECULIARITIES OF COGNITIVE DISORDERS IN PATIENTS WITH POST-TRAUMATIC EPILEPSY

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Annotation
Observations that the onset of epileptic seizures improved the psychotic symptomatology of some patients led to the theory of functional depen- dence and biological competition for schizophrenic and epileptic symptoms. A positive link between epilepsy and schizophrenia was later advocated. The current position is that there is a relationship, but in the link that appears to be epilepsy and psychosis, there may be competition for symptoms between epileptic seizures and psychotic symptoms with obvious deficits and in the domain of cognitive abilities.

Keywords: Neuropsychological evaluation; Epilepsy; Temporal lobe resection.

INTRODUCTION

Psychiatric diseases are characterized as multifactorial and their cause is not fully understood as there are many underlying causes of the onset of psychopathology such as genetic background, life events, experiences, substance use, viral infections, etc. (Sidiropoulou, 2015). We know that epilepsy is caused by environmental or genetic factors. After a craniocerebral injury, for example, the brain in its attempt to correct the damage creates abnormal connections between cells that can cause epilepsy (Sidiropoulou, 2015). Epilepsy is considered a common disease and comes from the Greek word for and received, which means "I get it or I get it" [1]. Historically, it was associated with various prejudices and myths, as epilepsy was very easy, with sudden seizures, to be considered quite mysterious [2]. Hippocrates was one of the first doctors to emphasize that epilepsy can be treated, while its cause is attributed to disorders in the brain.

MATERIALS AND METHODS

The temporal lobes are involved in the comprehension and memory of images as well as in the comprehension of language and emotions. They are responsible for hearing, perceiving complex images, understanding speech (in the left hemisphere) as well as behaviors that are responsible for motivation and emotion. Injuries to areas of the temporal lobe cause problems related to face recognition, word comprehension,

selective attention, increased or decreased sexuality, as well as aggressive behavior, persistent speech (after damage to the right temporal lobe), olfactory and visual hallucinations, feelings of awe and panic. Accompanying motor phenomena include strange grimaces, chewing movements, etc. The most common cognitive deficits from trauma or seizures in the right temporal lobe involve working memory and facial cognition. Patients with lesions in this brain area experience behavioral problems such as social isolation, depressive symptoms and aggression.

RESULTS AND DISCUSSION

Observations that seizures improved the psychotic symptoms of some patients led to the theory of functional dependence and biological competition for schizophrenic and epileptic symptoms (Introduction of a method of creating iatrogenic seizures with drugs by von Meduna for the treatment of schizophrenia). Later Slater et al. [4] by working with a small number of patients (69 people) they rejected the previous views and argued instead, the existence of a positive link between epilepsy and schizophrenia. The current position is that there is a relationship, but in the link that seems to have epilepsy and psychosis, there may be a rivalry of symptoms between seizures and psychotic symptoms (hallucinations and delusions).

All TBI cause serious effects, which are directly related to the rehabilitation functionality and social reintegration of the individual. The person suffering from a head injury is expected to show various cognitive, psychosocial deficits, as well as difficulties in communication, speech and speech, which will appear in different forms and will depend on the percentage of damage, the point of damage, and by the individual himself. TBI, therefore, can significantly affect many sectors and deficits can range from very mild to very severe and improve or persist for many years or even remain throughout a person's life [5]. The main deficits that can be identified in a patient who has undergone TBI are analyzed below:

Orientation: Orientation is related to the awareness of the individual around four main axes: the individual, space, time and situations. People who have undergone TBI are often observed for the fact that they feel lost and disoriented in relation to time and space. Orientation presupposes the individual's ability to receive, store, and retrieve new information presented after injury. When the patient recovers with TBI, the recall of the conditions returns first and then the recall of space and time. Time is constantly changing, and therefore information should be constantly updated, presupposing an increased level of awareness [3].

Attention deficits: Attention is a multifaceted cognitive function. This includes the individual's difficulties related to alertness, environmental awareness, selective attention, sustained and distracted attention. Vigilance and awareness refer to the state of consciousness in various sensory stimuli and the patient's perception in relation to the environment. Selective (or focused) attention generally refers to his ability to focus individual to one of many simultaneous stimuli, as well as the ability to resist distraction.

Stimulus response time: The slow way of reaction is a key characteristic of people who have undergone TBI. According to [4], these patients need more time to think before giving an answer. Especially in cases where the damage is diffuse, mental speed, memory and attention functions and the general cognitive performance of the patient are greatly degraded [2].

Executive functions: Executive functions are a superior brain function, which contributes to the conquest and achievement of a goal. The wide range covered by these functions includes: inductive and productive thinking, flexibility, organizing and structuring actions, planning, problem-solving and strategy-switching, goal-setting, inhibiting and controlling emotional responses and behavior, as well as persistence in the test [5].

Speech and language problems: It is accepted that people who have suffered a head injury may present with the exception of cognitive and other deficits such as speech and language disorders. The most common deficits observed in speech are the following:

- Disorganized and confused speech, both oral and written, which includes many inaccuracies, repetitions and revisions.
- Difficulty in finding the right words (lawlessness) and wrong naming.
- Hearing comprehension difficulties.
- Poor speech with short phrases and limited content.
- Semantic difficulties (vocabulary), reduced ability to use grammar and syntax correctly (syntax errors), at the level of oral and written speech.
- Aphasia Syndrome, if there are appropriate focal lesions and especially in cases of severe TBI (Sohlberg & Mateer, 1990).

Communication: Communication is defined as the exchange of information and messages between speakers (transmitter-receiver). Specifically, communication involves the transmission of a message from the transmitter's mind to the receiver's mind. In the literature, the "Message" is also referred to as communicative intention [2]. Communication can be either verbal or non-verbal (use of gestures and meanings).

The main goal of the neuropsychological assessment of the patient M.K. was the investigation mainly of her cognitive deficits with the basic set of tests of the neuropsychological laboratory of the C department University Psychiatric Clinic of AUTh University Greece, which examines the major points of cognitive behavior and performance. Specifically assessed: levels of attention and concentration, visual perception, learning ability, parameters of memory (verbal, visual, working, long-term), verbal functions and academic skills, visual- spatial and visual-constructive ability, abstract thinking, information processing speed, ability to form concepts, and executive functions.

CONCLUSION

The appearance of cognitive deficits associated with post- traumatic epilepsy of the right temporal lobe, verifies the relevant neurocognitive profile in the case of the patient MK. The patient had memory problems and could not retrieve information when she needed it. Also her attention was affected with the immediate result of slowing down the speed of information processing. We know that memory depends to a large extent on attention. The deficient attention of the patient MK seemed to have consequences in her memory as well. People with epilepsy, even if they can encode the information, may not remember it due to storage-dependent difficulties in brain systems that may have suffered from partial damage. The patient also showed problems in solving problems related to the reproduction of contents. In particular, it showed that it could not combine different contents of information. The specific patient with temporal lobe epilepsy presented special and characteristic deficits in the recall of episodic memory due to problems in attention, organization and delimitation of information, reduced cognitive flexibility, behavioral disorganization, removal of inhibitions, delusions and delusions. compliance with the medication and the instructions of her treating physician. This patient case supports the view that some patients develop psychosis after epilepsy surgery and that the combination of clinical features associated with right temporal lobe dysfunction differs significantly from other syndromes associated with focal frontal degeneration and of the left

temporal lobe and can be considered as a distinct syndrome with highly cognitive and behavioral deficits.

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