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EC NEUROLOGY
Case Report

Praxis Refers to the Process of Transcoding Thinking into Voluntary or Intentional Acts

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Abstract

We report a rare case of epilepsy presenting as simple partial Forced thinking (FT) is a rare epileptic phenomenon which is usually seen in patients with epilepsy.

Keywords: *Epilepsy; Thinking; Skill Task; GTC*

Introduction

In praxis-induced seizures, the seizures or discharges were precipitated when a patient is required to think of a task in a sequential fashion, to make decision and to give response by the use of a part of his/her body under the stress of circumstances. The most potent precipitation is "non-verbal" that involves spatial processing and ideation or execution of praxis. Transcoding processes of thinking into voluntary or intentional acts seem to be involved in the epileptogenesis. The praxis is not necessarily accompanied by actual motor movement, but must include ideation of motor activity [1].

Praxis refers to the process of transcoding thinking into voluntary or intentional acts [3]. Spatial thinking and the eventual action represent the two ends of the spectrum (Figure 1). A seizure may be induced by praxis typically when a patient is required to think of a complicated spatial task in a sequential fashion, to make decision, and to give response by using a part of the body under stressful circumstances. Processing of spatial information (spatial thinking) or ideation of motor activity alone can induce seizures [2]. Praxis induction is more than simple seizure triggered by proprioceptive input or simple repetitive movement. Forced thinking (FT) is a rare type of aura that refers to recurrent intrusive thoughts, ideas, or crowding of thoughts. Since Penfield and separated FT from psychic auras, FT has been regarded as an aura which is associated with frontal lobe epilepsy [2-7].

Case Report

The patient had his first seizure at the age of 17. The seizure pattern was GTC and he had seizures once a year on average (mostly after stopping the medication). The seizure pattern has not changed during this period and has remained the same. Before the GTC seizure, he usually has right-hand jerking. Seizures last 1-2 minutes and post-ictal confusion lasts about 5 minutes. The jerking of the hands follows mental stress. He has no history of serial seizures. He does not have aphasia or Todd paralysis. In addition, according to the patient, he has myoclonic seizures when doing skilled work or doing mathematical calculations. According to the patient's history, he has night terror attacks.

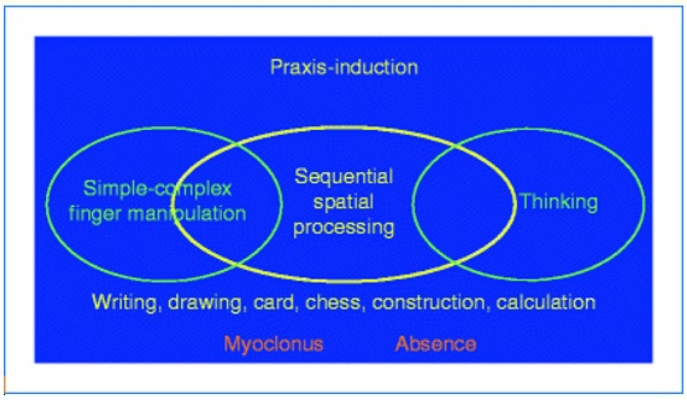

Figure 1

Contributing factors

The patient was a NVD patient, full term, with normal development and no history of FC, birth injury, head trauma, CNS infection.

Social history

He is right-handed/he is from Khuzestan and resident of Isfahan. His job is electronics engineer.

Family history

Parents are not related. He is not family history of epilepsy.

Current medications: Depakine 500 1/5 tablets daily.

Positive findings on physical and neurological examination: The patient is alert and oriented and cooperates in examinations. Cranial nerves and motor, sensory, cerebellar and gait systems are normal.

Laboratory findings: Lab and anti epileptic level BS(84), Cr(./7), K(4/2), WBC(6800), Hb(14/1), Na(144), Ca(10/5). MRI is normal.

Important clinical and paraclinical findings: Course in hospital:

Current video - EEG (non-invasive):

Interictal:

1. HV and Photic didn't induce seizure and epileptiform discharge.
2. Back ground consisted of 10HZ activity over posterior head the region and reactive to eye opening and closing.
3. Bilateral sharp waves.
4. Bilateral spike-waves.

The patient had no seizures during the hospitalization: Given the history of myoclonus attacks according to the patient's own and his sister's history, which occurs when solving a mathematical problem or a skill task, the patient was asked to solve problems regularly

during the hospitalization, and in many of these problems he experienced generalized sharp waves and spike waves, but he had no clinical findings.

Epileptogenic zone: Generalized (based on history).

Seizure semiology: GTC and Reflex epilepsy (generalized myoclonic).

Discussion and Conclusion

The patient is a 25-year-old male who had his first seizure at the age of 17 and has a history of GTC seizures and generalized myoclonic during problem solving or a skill task. He had no seizures during his hospitalization. The patient was asked to solve a math or physics problem, and in some of these cases he had no clinical symptoms, but in terms of the tape, he had spike-wave or sharp waves. In the interictal, he had generalized sharp and spike waves. The patient's MRI did not have any obvious pathological findings. The patient was discharged with a diagnosis of GGE and reflex epilepsy, thinking and praxis in the context of GGE. Refer to the epilepsy clinic for follow-up.

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