

Rare Two Findings in Frontal Lobe Epilepsy: Finger Snapping, and Ictal Alpha Activity

Dear Editor,

With the widespread use of video-electroencephalography (vEEG), we have more powerful clues to diagnose the duration of seizures, for stereotyping, and the detection of electrophysiologic ictal recording. At the same time, different ictal semiologies have been defined with the use of vEEG.

The patient was a right-handed male aged 35 years. The patient had a generalized onset of seizures with unknown origin during sleep for the first time when he was aged 10 years. He was given valproic acid (VPA) treatment when he was aged 15 years and was seizure free for about 10 years. The patient had bilateral tonic-clonic seizure after varicocele surgery performed under general anesthesia at age 32 years, and then

his sleep attacks have started. His treatment was VPA 1500 mg/day, levetiracetam (LEV) 3000 mg/day, topiramate (TPM) 50 mg/day, and clobazam (CLB) when he was admitted to our outpatient clinic. He had a history of hospitalization due to meningitis when he was aged 8 years. There was no history of head trauma or febrile seizure. He had no family history of epilepsy. His systemic and neurologic examinations were normal. Cranial magnetic resonance imaging (Cr. MRI) revealed polymicrogyria in the right frontal lobe [Figure 1]. We were monitored his seizures using vEEG recording with the diagnosis of resistant epilepsy. Ictal finger-snapping was recorded in three seizures. Finger snapping was recorded once, a loud sound, and the beginning of three all seizures. He performed two of the finger-snapping with his right hand

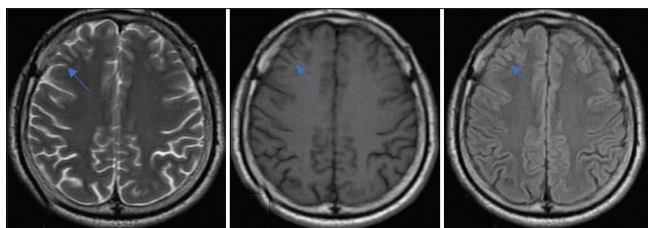


Figure 1: Recently: T2AG, T1AG, FLAIR Cr. MRI: Polymicrogyria in the right frontal lobe

and one with his left hand [Videos 1-3]. The patient was aware of his seizures. In addition, his seizures continued by tonic activity in the his left half of the face, and dystonic posture in his left upper extremity. His some of seizures have a hypermotor semiology. The seizures duration was between 10-40 seconds and there were no postictal periods. The patient had no interictal EEG findings. At the ictal EEG was recorded an asymmetric amplitude suppression in the right hemisphere, and a decrease in the RR interval was observed in the preictal and ictal period [Figure 2]. Considering his left dystonic posture semiology, an ictal amplitude asymmetry on the right side, and right frontal polymicrogyria are localized the epileptic focus as right frontal seizure. We discontinued TPM, and started lacosamide (LCM) to add on. LEV, LCM, and VPA treatment were followed by seizure-free interval of 13 months.

DISCUSSION

Frontal lobe seizures usually last less than 60 seconds, with an awareness of preservation, sleep, and multiple clustering tendencies, and hypermotor and asymmetric tonic activity are common findings.^[1] In our case' seizures lasted 10–40 s, there was no postictal period, the movements recorded in seizures showed stereotypes within themselves, there was marked hypermotor and asymmetric tonic activity in the upper extremity. All these features were suitable for frontal lobe seizures. An asymmetric amplitude suppression or generalized suppression, or rapid rhythmic activity sign an extratemporal ictal pattern. In addition, an RR interval decrease in of 1–2 s occurred before seizures on single-channel electrocardiography (ECG). In occasionally, discharge with alpha-frequency can record in ictal or postictal periods on EEG. If this condition presence of a seizure activity, it should be considered that rapid activity as in our patient. This is an indication that alpha activity does not necessarily discriminate between epileptic and non-epileptic conditions.^[2]

The other part of the case, which was reported to be noteworthy, was the finger snapping of the patient in the ictal period. Finger snapping was recorded, two of which were made with the right hand and one with the left hand. Although finger snapping is unilateral, it can be caused by the temporal lobe or the orbitofrontal area unilaterally. In our case, he has a tonic activity in the left hand and dystonic posture in the left upper extremity that show us the epileptic focus is contralateral hemisphere over 90%.^[3] Ictal finger snapping can be sign into two different

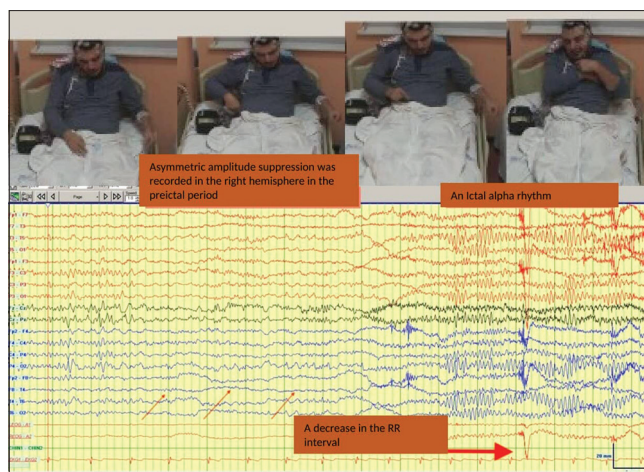


Figure 2: Preictal, and ictal signs on EEG

epileptic focus; if the seizure begins with an elongation of the distal part of the extremity, increased muscle contraction in the fingers and loudly the epileptic focus will be the supplementary motor area.^[4,5] If the finger snapping is less force and repeated, the epileptic focus will be temporal lobe.^[5] Our case is a good example of the first group. All of the three seizures were finger snapping, one at the beginning of the seizure and three at the same time with a strong sound. These features consider the epileptic focus was the frontal lobe. Although finger snapping followed by left tonic activity, one of finger snapping be with right hand another one be with the left hand. This suggests that there was no clear lateralization of finger snapping with the current data, but that single and strong finger snapping can be localized to the supplementary motor area.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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