



Cerebral Venous Thrombosis Can Be Followed by Electroencephalography: Accompanied By a Case Discussion

Serebral Venöz Tromboz Elektroensefalografi ile Takip Edilebilir mi? Bir Olgu Eşliğinde Tartışma

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Dear Editor,

A 46-year-old female patient was admitted to our outpatient clinic with symptoms of contraction in the left part of her face, fatigue, and widespread pain and numbness in the whole body. The patient, who had no history of any known disease, reported contractions in the left part of her face occurring 2-3 times per day and lasting 5-10 seconds since last week. There was no triggering factor, accompanying the loss of consciousness, urinary incontinence, foaming at the mouth or biting the tongue. Her neurologic examination was normal. An electroencephalogram (EEG) showed high amplitude and spreading 3-4 Hz sharp slow wave complexes in bilateral, predominant in the right side, frontocentral regions (Figure

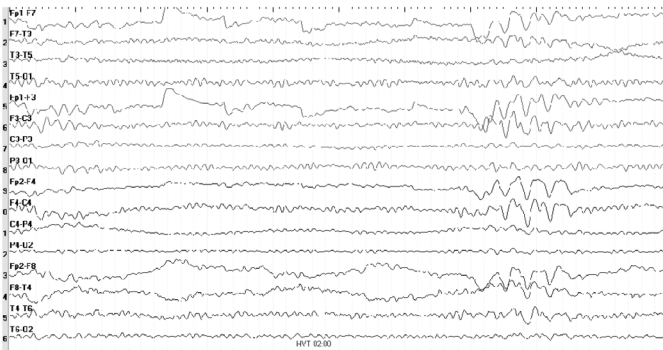


Figure 1. 3-4 Hz sharp slow wave complexes in bilateral frontocentral regions in electroencephalogram.

1) and the patient was diagnosed as having focal epilepsy and levetiracetam 1000 mg/day was initiated. In the follow-up, it was learned that the facial contractions had improved but other symptoms had worsened. Also, it was learnt that bilateral new-onset gradually worsening headache had developed. The fundoscopic exam revealed grade 2 papilledema. It was learnt that she underwent in vitro fertilization (IVF) in the last six months and received hormonal therapy. She was hospitalized with a pre-diagnosis of cerebral venous thrombosis (CVT) and warfarin, low-molecular-weight heparin and acetazolamide were initiated. No intracranial pathology in cranial magnetic resonance imaging (MRI) and no laboratory abnormalities were observed. MRI venography findings were compatible with local stasis or occlusion of both-predominantly left side-lateral transverse sinuses (Figure 2), and in the follow-up EEG, bilateral frontal intermittent rhythmic delta activity (FIRDA) was observed (Figure 3). Thyroid function tests and tumor markers were within normal limits and a vasculitis panel, Wright and Rose Bengal tests resulted in negative, which were performed for a differential diagnosis. Before IVF, genetic examinations for thrombophilia susceptibility were conducted and all resulted negative. The same treatment was continued and at the 6-month follow-up, fundoscopic exam and control EEG were normal (Figure 4). MRI venography showed local decreases in calibration and local wall irregularities in both transverse sinuses but no signs of stasis or occlusion (Figure 5). The patient's non-specific symptoms, pain, fatigue and numbness in the whole body, significantly improved.

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CVT is a disease especially seen in women receiving hormone therapy, which presents with a broad spectrum of symptoms ranging from mild symptoms such as headache

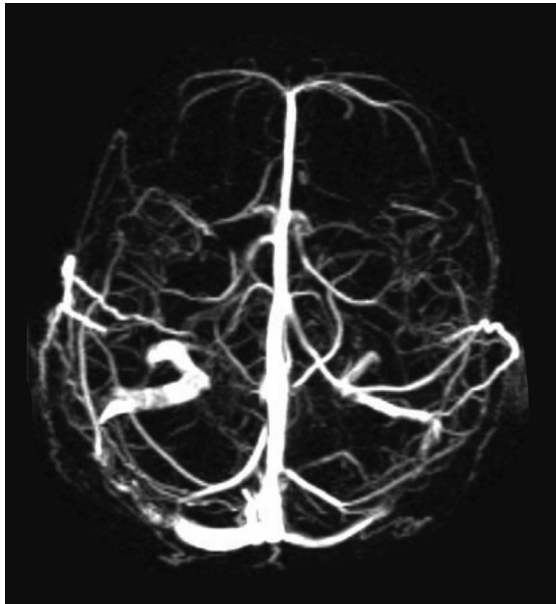


Figure 2. The appearance of local occlusion in bilateral transverse sinuses in magnetic resonance imaging venography

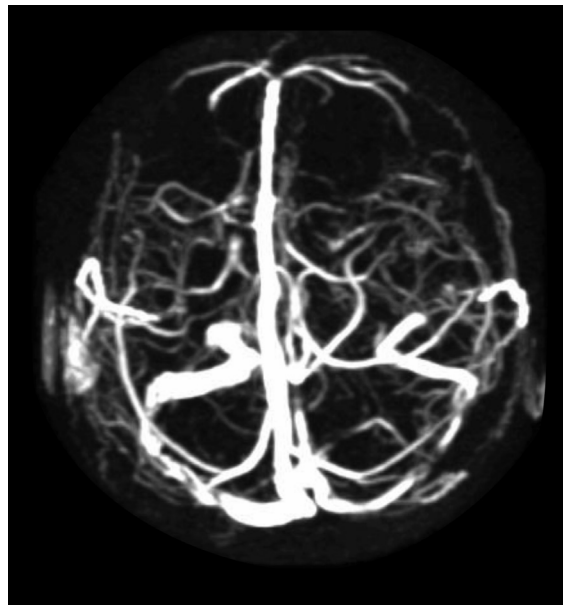


Figure 5. Appearance of locally decreases in calibration in bilateral transverse sinuses in magnetic resonance imaging venography

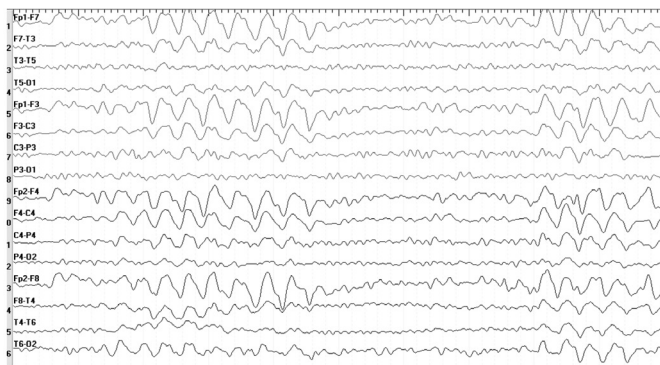


Figure 3. Bilateral frontal intermittent rhythmic delta activity in electroencephalogram

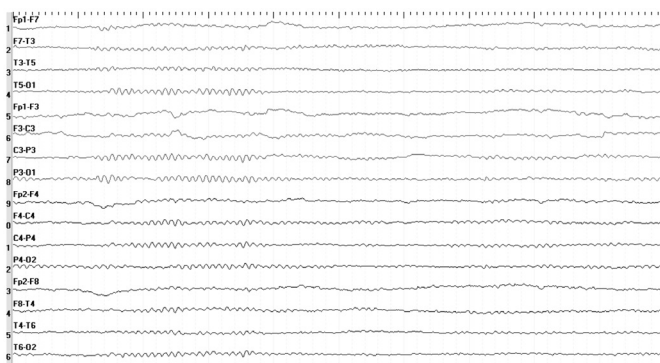


Figure 4. Normal electroencephalogram findings

to severe symptoms such as stroke (1). The most common clinical symptoms are headache secondary to focal cerebral edema and intracranial hypertension, focal neurologic deficits due to venous infarction or hemorrhage, and seizures (2). The presentation rate with epileptic seizure is 6-10% and seizures are usually seen in patients with secondary venous bleeding (1). Threlkeld et al. (3) monitored intracranial hypertension in an 18-year-old comatose patient with EEG, which is a non-invasive method. In a study performed by Dericioglu et al. (4), FIRDA was defined as a disturbance of EEG with unclear etiology, which was seen in intensive care patients and in patients with altered consciousness, and might be associated with metabolic and structural causes. Although demographic findings and etiology were consistent with the literature, CVT was reflected atypically in the clinic with focal epilepsy. Mehvari Habibabadi et al. (5) described the occurrence of seizures in the first 14 days of CVT as acute symptomatic epilepsy (ASE) in their meta-analysis and observed ASE in patients with altered consciousness and focal neurologic deficits and with supratentorial lesions. In cranial imaging of our patient, no secondary venous infarction or bleeding associated with CVT was observed to cause epilepsy. In the follow-up, non-specific symptoms such as pain, fatigue and numbness were observed; however, no alteration in consciousness was observed. EEG showed FIRDA and it resolved with treatment. Our case is interesting with these aspects and this clinical picture can be classified as ASE in CVT. In the event of increased intracranial pressure such as CVT, when findings related to structural abnormalities such as FIRDA are found, EEG can be used as a noninvasive monitor in the follow-up of such patients.

Ethics

Informed Consent: Consent form was filled out by all participants.

Peer-review: Internally peer-reviewed.

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