

Video-EEG illustration of transient episodes of loss of consciousness correlating with plateau-waves due to intracranial hypertension

Nada El Youssef¹, Vadim Ivanov², Agnes Trebuchon³,
Fabrice Bartolomei³, Stanislas Lagarde³

¹ APHM, Timone Hospital, Epileptology Department, Marseille, France

² APHM, La Conception Hospital, Clinical Haematology Department, Marseille, France

³ Aix Marseille Univ, APHM, INSERM, INS, Inst Neurosci Syst, Timone Hospital, Epileptology Department, Marseille, France

Received April 21, 2020; Accepted May 02, 2020

A 54-year-old woman, with relapsing mantle B-cell lymphoma, was admitted due to recurrent unresponsive episodes. During video-EEG recording, the patient became transiently unresponsive for 12 minutes with staring and brachiofacial automatisms (see *video sequence*), with correlating diffuse EEG delta activity that resolved spontaneously, without epileptic discharge, cardiac arrhythmia, or hypotension (*figure 1*). No intracranial lesion was identified on neuroimaging. Lumbar puncture revealed increased CSF pressure and infiltrating lymphomatous cells, confirming a diagnosis of leptomeningeal metastases. Transient neurological events can be linked to increased intracranial pressure, generating a decrease in cerebral perfusion and EEG “plateau-waves” (Cooper and Hulme, 1969; Munari and Calbucci, 1981; Chen *et al.*, 2012; Gold *et al.*, 2016; Stretz *et al.*, 2017). This entity may be differentiated from differential diagnoses based on EEG. □

Legend for video sequence

Video-EEG showing an episode of unresponsiveness over a period of 12 minutes, with no motor response on verbal command and brachiofacial automatisms. The EEG shows transitory generalized slowing consisting of delta wave activity and frontal intermittent rhythmic delta activity (FIRDA), without cardiac arrhythmia or epileptic discharge: “plateau-waves”.

Key words for video research on
www.epilepticdisorders.com

Phenomenology: consciousness (alteration); non-epileptic paroxysmal event; automatisms

Localisation: not applicable

Syndrome: non epileptic paroxysmal disorder

Aetiology: non epileptic paroxysmal disorder



VIDEO ONLINE

Correspondence:

Stanislas Lagarde
Hôpital La Timone,
Service d'épileptologie
et de rythmologie cérébrale,
264, rue Saint-Pierre,
13005 Marseille, France
<stanislas.lagarde@ap-hm.fr>

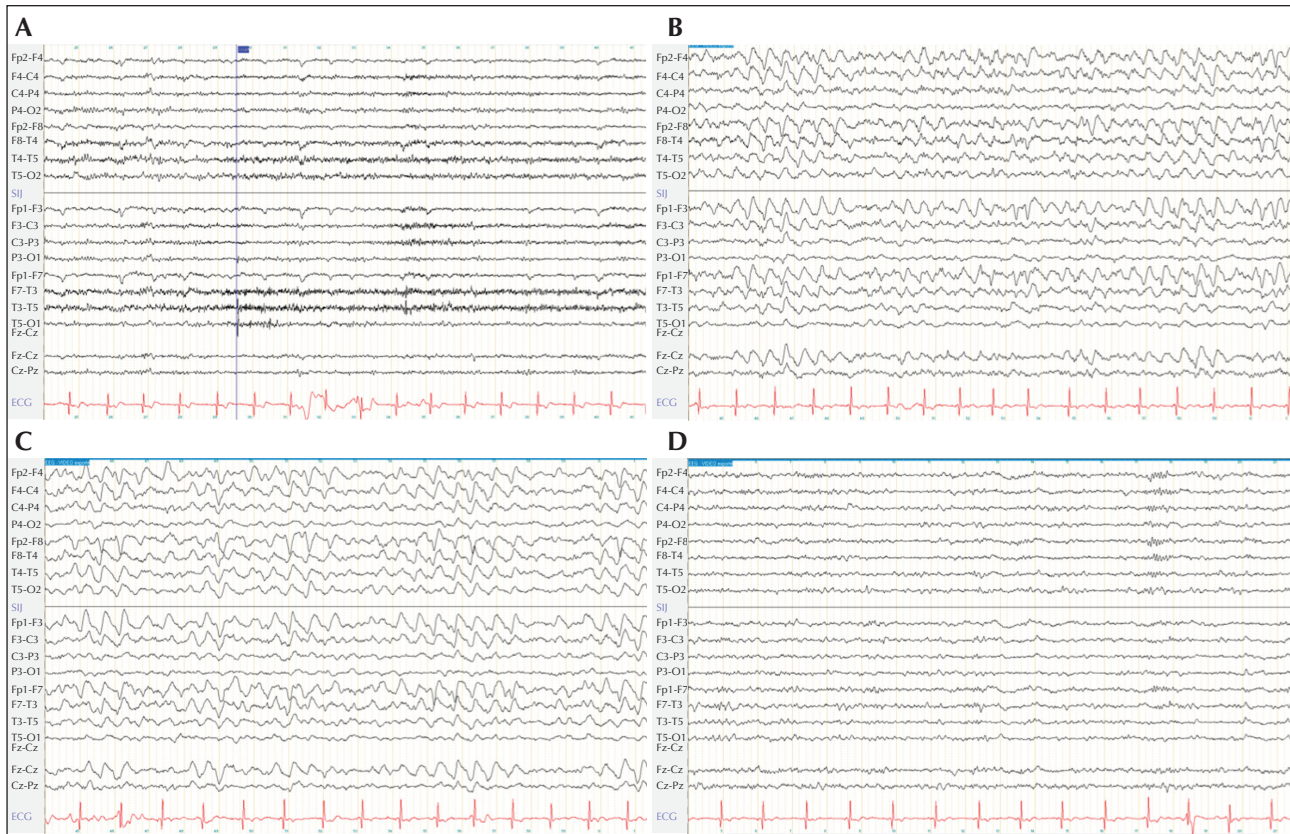


Figure 1. EEG showing: (A) normal initial background without interictal spike; (B), (C) abrupt generalized slowing consisting of delta high-amplitude wave activity and frontal intermittent rhythmic delta activity (FIRDA), without cardiac arrhythmia or epileptic discharge, during the episode: “plateau-waves”. (D) Return to normal background after the end of the episode.

Disclosures.

None of the authors have any conflict of interest to declare.

References

- Cooper RAY, Hulme A. Changes of the EEG, intracranial pressure and other variables during sleep in patients with intracranial lesions. *Electroencephalogr Clin Neurophysiol* 1969; 27(1): 12-22.
- Munari C, Calbucci F. Correlations between intracranial pressure and EEG during coma and sleep. *Electroencephalogr Clin Neurophysiol* 1981; 51(2): 170-6.

Chen H, Wang J, Mao S, et al. A new method of intracranial pressure monitoring by EEG power spectrum analysis. *Can J Neurol Sci* 2012; 39: 483-7.

Stretz C, Mook AR, Zhang Y. Pearls & oysters: transient neurologic events in a patient with leptomeningeal metastases. *Neurology* 2017; 89(5): e50-3.

Gold CA, Odom N, Srinivasan S, et al. Electrographic correlates of plateau waves in patients with leptomeningeal metastases. *Neurohospitalist* 2016; 6: 161-6.