PITFALLS IN NOCTURNAL FRONTAL LOBE EPILEPSY : A CASE REPORT

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Introduction

A delay in proper diagnosis of new onset epileptic seizures is a frequent event in daily clinical practice. This appears particularly likely in some epileptic seizures such as those occurring during sleep or unwitnessed (Firkin et al. 2015). For example the diagnosis of Nocturnal Frontal Lobe Epilepsy (NFLE) can be very challenging because seizures can often mimic non epileptic paroxysmal events during sleep (Bisulli et al. 2011).
We describe a patient affected with NFLE that was first diagnosed and unsuccessfully treated as Gastroesophageal Reflux Disease(GERD).

Case report

Chiara, 14 years old, normal birth and development. Family history was positive for parasomnic events. Since she was 13 years old, she has experienced some sleep related episodes, characterized by arousal, feeling of acid in the mouth, drooling, sometimes enuresis. She was diagnosed as affected with GERD but the episodes became more frequent despite a specific medical treatment had been started. She also complained diurnal somnolence.
When she came to our observation, a V-EEG was performed. The patient easily fell asleep and a typical event was recorded during stage S2 of NREM sleep. It was characterized by sudden arousal, gaze staring, facial grimacing, dystonic posturing of the left arm, finally drooling and fast recovering. EEG traces were almost completely covered by motor activities (Fig.1). A whole night V-PSG allowed the recording of eight, brief and stereotyped typical episodes, all occurring during stage S2 (Fig.2). Brain MRI was normal. The patient was started on Carbamazepine and she is seizure free at a 5 months follow-up.

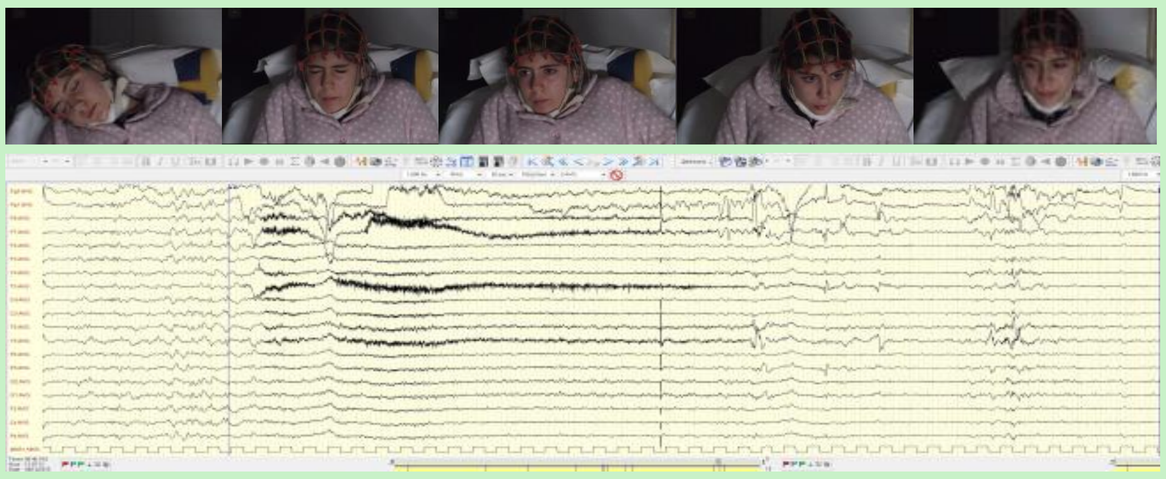

Fig.1. V-EEG recording of typical event during stage S2 of NREM sleep. Length of about 30 seconds: sudden arousal with facial grimacing (frame 2), mouth deviation, gaze staring, dystonic posturing (frame 3-4), drooling (frame 5). Muscular artifacts obscure EEG activities.

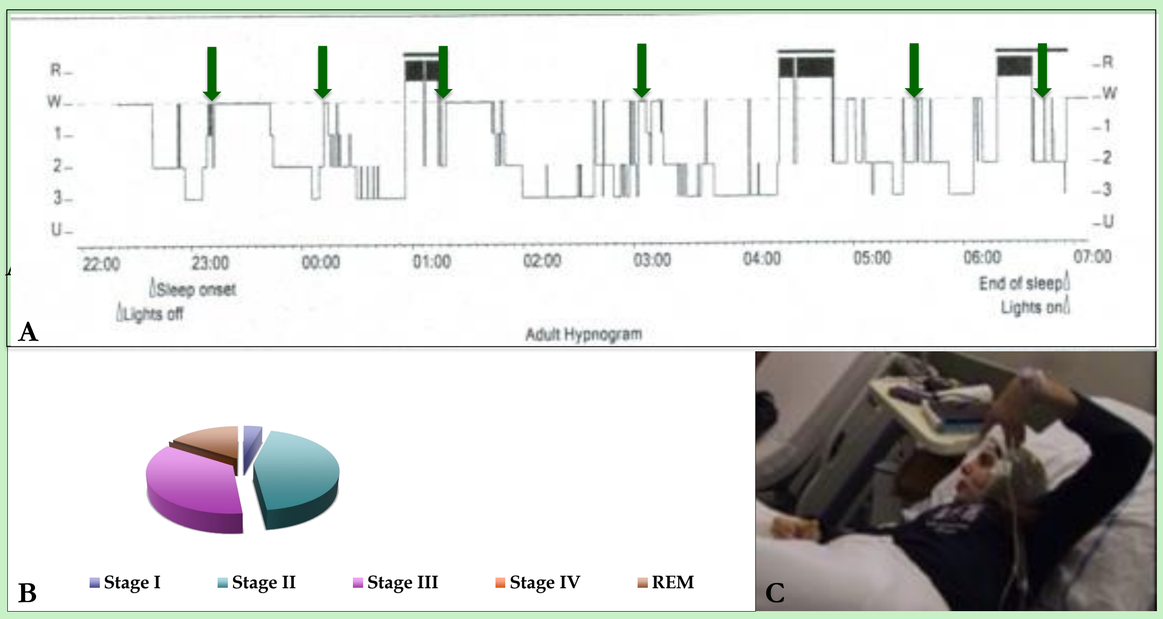

Fig.2. V-PSG. A. Hypnogram showing eight events with arousal from NREM sleep (green arrows) B. Diagram of sleep structure C. V-PSG's frame: dystonic posturing of the left arm.

Discussion and Conclusions:

- In our patient, V-PSG allowed the recording of multiple, frequent, stereotyped and brief events during the night, all showing asymmetric posturing. These aspects suggest a possible origin of the seizures from the frontal cortex although very similar hypermotor seizures can have an extrafrontal origin (i. e. temporal lobe, insular-opercular region). So recently the definition of Sleep related Hypermotor Epilepsy (SHE) is preferred to the better known NFLE (Tinuper et al, 2016).
- The differential diagnosis between SHE and non epileptic sleep-related events is often difficult and sometimes impossible by history taking alone. Moreover ictal and interictal EEG recordings often fail to show specific abnormalities. As a consequence in our patient a correct diagnosis and the beginning of an appropriate therapy were significantly delayed with important impact on the quality of the life. Moreover we underline the diagnostic value of the whole night V-PSG, that remains necessary in complex cases or in cases in which there is doubt.

References:

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