RESIDENT & FELLOW SECTION

Section Editor
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Mystery Case: Catathrenia

A rare but treatable parasomnia

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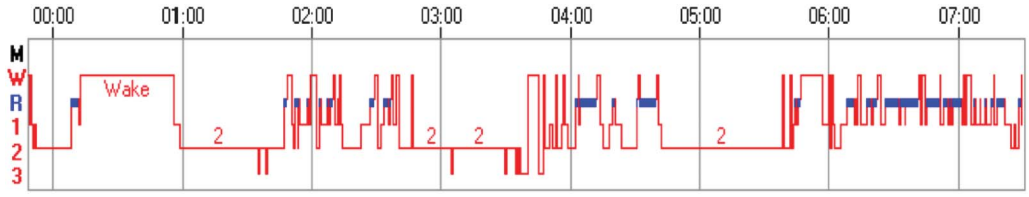
Figure 1 Hypnogram



Fragmented sleep with increased awakenings. There were also frequent microarousals, mostly associated with respiratory effort. Respiratory disturbance index: 7.95 (↑). 1 = N1 sleep; 2 = N2 sleep; 3 = N3 sleep; R = REM sleep; W = wake.

A 32-year-old man with somatosensory seizures due to bilateral perisylvian polymicrogyria, completely controlled with valproate 1,500 mg/day, presented to the epilepsy clinic with his wife, describing groaning several times a night (video on the *Neurology*® Web site at Neurology.org). Nocturnal polysomnography showed no epileptic activity and revealed catathrenia (figures 1 and 2). He started continuous positive airway pressure (CPAP) 4–12 cm H_2O and this resolved his complaints.

Catathrenia consists of apnea during end inspiration plus expiratory groaning during sleep.[1] The differential diagnosis includes epileptic seizures. Diagnosis is essential since treatment with noninvasive ventilation can treat this parasomnia.[2] Although catathrenia often responds to CPAP, its classification as a parasomnia vs sleep-disordered breathing remains controversial.

AUTHOR CONTRIBUTIONS

Dulce Neutel: drafting/revising the manuscript, study concept or design, analysis or interpretation of data, accepts responsibility for conduct of research and final approval, acquisition of data. Rita Peralta: drafting/revising the manuscript, study concept or design, analysis or interpretation of data, accepts responsibility for conduct of research and final approval. Carla Bentes: drafting/revising the manuscript, study concept or design, analysis or interpretation of data, accepts responsibility for conduct of research and final approval, contribution of vital reagents/tools/patients, study supervision.

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DISCLOSURE

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Supplemental data at Neurology.org

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2. Zinke J, Rupprecht S, Schwab M, Hagemann G. Nocturnal groaning (catathrenia) and epilepsy. Epileptic Disord 2010; 12:136–137.

MYSTERY CASE RESPONSES

The Mystery Case series was initiated by the *Neurology* Resident & Fellow Section to develop the clinical reasoning skills of trainees. Residency programs, medical student preceptors, and individuals were invited to use this Mystery Case as an educational tool. Responses were solicited through a group e-mail sent to the American Academy of Neurology Consortium of Neurology Residents and Fellows and through social media. All the responses that we received came from individuals rather than groups. Sixty-six percent of respondents correctly identified the diagnosis of catathrenia. The most complete response came from Pavan Bhargava, who described the pattern of abnormal inspiration and groaning during expiration seen in this parasomina.

As the authors note in their article, catathrenia is important to recognize in spite of its rarity since it often responds well to treatment with CPAP.

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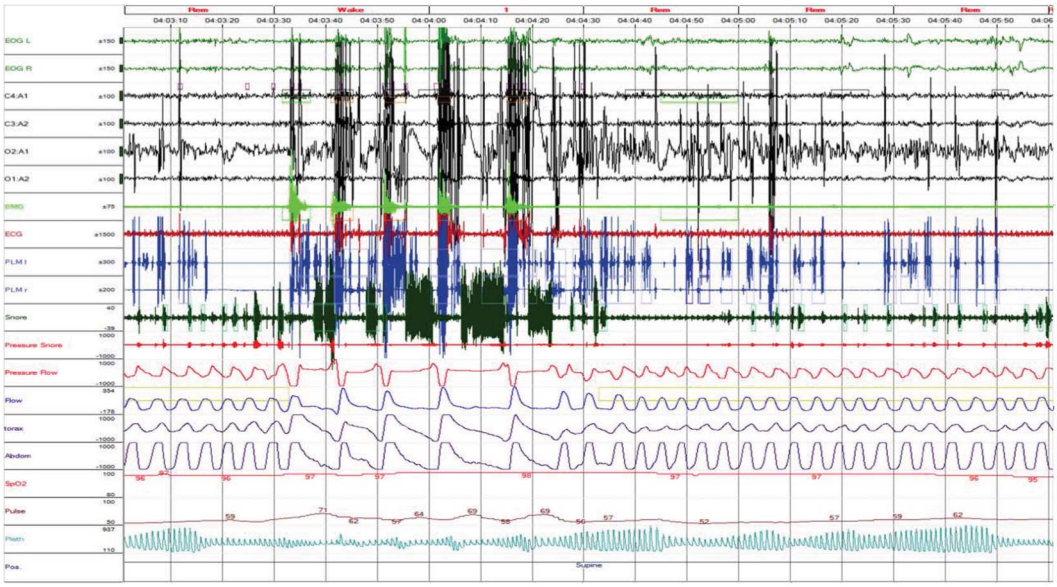
Figure 2 Three-minute epoch of diagnostic polysomnography



Respiratory bradyarrhythmia: during an awakening from REM sleep, there is a bradypnea, resembling a train of central sleep apneas. On closer look, it can be seen that it corresponds to a prolongation of the expiratory phase (see pressure flow recorded from nasal cannula). Breathing sounds occur during expiration. Notice the concomitant heart rate variability and peripheral vasoconstriction (decreased plethysmographic signal) associated with the event. C4:A1, C3:A2, O2:A1, and O1:A2 = EEG derivations. EMG = chin EMG; EOG L = left electro-oculogram; EOG R = right electro-oculogram; Pleth = plethysmographic signal; PLM l = left leg EMG; PLM r = right leg EMG; SpO_2 = oxygen saturation.

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