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Psychogenic Non-Epileptic Seizures 2020: The Enhanced Role of the Neurologist…

Commentary on: Kanner AM.
Psychogenic Nonepileptic Seizures Are Bad for Your Health. *Epilepsy Curr*. 2003;3(5):181-182.
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In 2003, I wrote a commentary in *Epilepsy Currents*[1] on a study by Reuber et al that investigated the outcome of 164 adults with psychogenic non-epileptic seizures (PNES) 4 years after diagnosis.[2] Their findings were rather disappointing, as 72% continued to experience persistent events and more than 50% were dependent on governmental aid. At that time, we lamented the disappointing state of treatment of PNES and neurologists' attitudes toward these events of "*diagnose and adios!*"

Clearly, neurologists' attitudes toward PNES are out of synch with the realities of this condition today. First, PNES are relatively frequent, as they account for 11% of convulsive events evaluated in emergency departments (ED), 8% to 12% of consultations in "new seizure" clinics and 30% of patients referred to epilepsy centers with a presumed diagnosis of intractable epilepsy.[3] Their annual incidence has been estimated to range from 1.5 to 6.17/100.000.[3] Psychogenic non-epileptic seizures are recognized throughout the world, but their prevalence in developing countries has yet to be established because of limitations in the access to diagnostic studies.[4] Yet, even in developed countries (eg, United Kingdom), there is a significant delay of 5 years between the onset of the disorder and diagnosis.[5]

There seems to be a growing interest in PNES, as to date, they have been the source of 1584 PubMed citations and 338 000 Google hits. In this commentary I review, the advances in our understanding of PNES since the 2003 commentary reassess the role of neurologists in their management.

The recognition of PNES as one of the conversion disorders (after years of resistance) by the American Psychiatric Association in their *Diagnostic and Statistical Manual of Mental Disorders Fifth Edition* (DSM-5) appears to have been a "major accomplishment."[6] Yet, the inclusion of PNES in the DSM-5 was more a political gesture and an unavoidable acknowledgment of a condition that had been known to neurologists and mental health professional alike since the 19th century.

Studies performed in the last 2 decades have expanded our appreciation of the pleomorphic nature of PNES not only on the complex clinical manifestations of the psychiatric profile but also in their association with comorbid neurologic, cognitive, medical and sleep disorders.[7,8] For example, a patient's psychiatric picture may meet diagnostic criteria for a mood and/or anxiety disorder associated with a post-traumatic stress disorder (PTSD) and a dissociative disorder with or without a personality disorder (particularly, clusters B and C).[7] Furthermore, PNES may be one of several conversion disorders affecting the same patient, as other functional motor and/or sensory symptoms can be often identified, concurrently, preceding or after the remission of PNES.[8]

Cognitive difficulties are the source of a common complaint but often they may not be demonstrated in neuropsychological testing.[9] They may be an expression of a comorbid mood disorder or may reflect iatrogenic effects of anti-seizure drugs (ASDs) and/or frequently used pain medication (see below), and in some patients, they may represent a functional cognitive disorder.[10]

Chronic pain is very common, reported in more than 80% of patients,[9,11,12] including fibromyalgia, low back, and cervical pain. Furthermore, intractable migraines and/or mixed headache disorders are very common neurologic comorbidities, having been reported in up to 60% of these patients. These pain disorders have resulted in a higher risk of opiate use and abuse, with some authors reporting opiate use in 14% to 32%.[12,13]

Sleep disorders are also frequent comorbidities, having been identified in 30% of PNES patients,[14] including obstructive sleep apnea, periodic limb movement disorders, and sleep disturbances associated with other comorbid psychiatric disorders such as early night insomnia and/or middle of the night awakening or nightmares which can be part of a comorbid mood and anxiety disorder and/or PTSD.[15] Finally, epileptic seizures can occur in 5% to 40% of patients with PNES. The higher comorbid occurrence is significantly more likely to be identified in patients with intellectual disability and in children.

In the last 15 years, there have been significant advances in the treatment of PNES, with the establishment of cognitive behavior therapy (CBT) with or without a selective serotonin-reuptake inhibitor (SSRI) antidepressant.[16-19] For example, one randomized trial compared the efficacy of CBT, CBT + sertraline, sertraline alone, and treatment as usual. Cognitive behavior therapy with and without sertraline yielded a significant reduction in events, psychiatric symptoms, and improved global functioning.[18] Yet, complete freedom from events was achieved in less than 50% of patients.

These data clearly indicate that there is more to PNES than the actual events. The complexity of the psychiatric clinical manifestations coupled with the frequent comorbid medical and neurologic disorders illustrate the challenge that clinicians face. Ideally, an integrated multidisciplinary team composed of a neurologist, a psychiatrist and a psychologist is necessary to develop a comprehensive diagnostic evaluation and treatment plan for PNES. So, neurologists who consider their role to be limited to "*diagnose and adios*" must accept that their role just begins with the establishment and the presentation of the diagnosis. Indeed, their first aim is to ensure that patients and family members alike have clearly understood that they do not have epileptic seizures, that these events do not cause brain damage, and therefore, that taking the patient to the ED should be avoided. Patients must know that they have a neurologist taking care of them and whom they can call when the events recur (and they will recur!). This will minimize or avoid their visits to the ER, which poses the higher morbidity and mortality risks, as they may be restarted with high doses of ASDs and worse, admitted (unnecessarily) to an intensive care unit (ICU) (reported in 30% to 50% of patients.

The neurologist must oversee the discontinuation of ASD, unless the psychotropic properties of the drug is yielding a therapeutic effect for comorbid psychiatric or pain disorders or unless the patient is suspected or known to have comorbid epileptic seizures, which may be in remission with the ASDs. The neurologist is also needed for the diagnostic evaluation of other conversion disorders that may be concurrent or may develop after the diagnosis of PNES and hence avoid costly workups and hospitalizations. Furthermore, the frequent comorbid headaches and migraines and sleep disorders will require the neurologist's intervention. Finally, since many patients may continue to experience their events, it is likely that they will be taken to an ER at one time or another. Having a neurologist that the ER physician can call and that can explain the nature of the events will save unnecessary administration of ASDs and admissions to the hospital or to the ICU.

In summary, 17 years later, we have seen significant advances in our understanding of the complex and pleomorphic nature of PNES and of treatment strategies that we can offer patients. The role of the neurologist in the treatment process is fundamental so hopefully the attitude of "*diagnose and adios*" will become a thing of the past!

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References

1. Kanner AM. Psychogenic nonepileptic seizures are bad for your health. *Epilepsy Curr*. 2003;3(5):181-182.
2. Reuber M, Pukrop R, Bauer J, Helmstaedter C, Tassendorf N, Elger CE. Outcome in psychogenic non-epileptic seizures: 1 to 10-year follow-up in 164 patients. *Ann Neurol*. 2003;53: 305-311.
3. Duncan R, Razvi S, Mulhern S. Newly presenting psychogenic nonepileptic seizures: incidence, population characteristics, and early outcome from a prospective audit of a first seizure clinic. *Epilepsy Behav*. 2011;20(2):308-311.
4. Kanemoto K, LaFrance WC Jr, Duncan R, et al. PNES around the world: where we are now and how we can close the diagnosis and treatment gaps-an ILAE PNES task force report. *Epilepsia Open*. 2017;2(3):307-316.
5. Mayor R, Smith P, Reuber M. Management of patients with nonepileptic attack disorder in the United Kingdom: a survey of healthcare professionals. *Epilepsy Behav*. 2011; 21:402-406.
6. Vahia VN.Diagnostic and statistical manual of mental disorders, fifth edition. *Indian J Psychiatry*. 2013;55(3):220-223.
7. Bermeo-Ovalle A, Kanner AM. Comorbidities in psychogenic nonepileptic seizures. *Gates and Rowan's Nonepileptic Seizures*. Cambridge University Press; 2018: p. 245-256.
8. Brown RJ, Reuber M. Psychological and psychiatric aspects of psychogenic non-epileptic seizures (PNES): a systematic review. *Clin Psychol Rev*. 2016a;45:157-182.
9. Driver-Dunckley E, Stonnington CM, Locke DE, Noe K. Comparison of psychogenic movement disorders and psychogenic nonepileptic seizures: is phenotype clinically important? *Psychosomatics*. 2011;52(4):337-345.
10. Stone J, Pal S, Blackburn D, Reuber M, Thekkumpurath P, Carson A. Functional (psychogenic) cognitive disorders: a perspective from the neurology clinic. *J Alzheimers Dis*. 2015;48(Suppl 1): S5-S17.
11. Dworetzky BA, Strahonja-Packard A, Shanahan CW, Paz J, Schauble B, Bromfield EB. Characteristics of male veterans with psychogenic nonepileptic seizures. *Epilepsia*. 2005;46(9): 1418-1422.
12. Gazzola DM, Carlson C, Rugino A, Hirsch S, Starner K, Devinsky O. Psychogenic nonepileptic seizures and chronic pain: a retrospective case-controlled study. *Epilepsy Behav*. 2012; 25(4):662-665.
13. Hantke NC, Doherty MJ, Haltiner AM. Medication use profiles in patients with psychogenic nonepileptic seizures. *Epilepsy Behav*. 2007;10(2):333-335.
14. Latreille V, Baslet G, Sarkis R, Pavlova M, Dworetzky BA. Sleep in psychogenic nonepileptic seizures: time to raise a red flag. *Epilepsy Behav*. 2018;86:6-8.
15. Popkirov S, Stone J, Derry CP. Abnormal sleep in patients with epileptic or dissociative (non-epileptic) seizures:

a polysomnography study. *European Journal of Neurology*. 2019;26(2):255-260.

16. LaFrance WC Jr, Miller IW, Ryan CE, et al. Cognitive behavioral therapy for psychogenic nonepileptic seizures. *Epilepsy Behav*. 2009;14(4):591-596.
17. Goldstein LH, Chalder T, Chigwedere C, et al. Cognitive-behavioral therapy for psychogenic nonepileptic seizures: a pilot RCT. *Neurology*, 2010;74(24):1986-1994.
18. LaFrance WC Jr, Baird GL, Barry JJ, et al. NES treatment trial (nest-t) consortium. Multicenter pilot treatment trial for psychogenic nonepileptic seizures: a randomized clinical trial. *JAMA Psychiatry*. 2014;71(9):997-1005.
19. Goldstein LH, Robinson EJ, Mellers JDC, et al. CODES study group. Cognitive behavioural therapy for adults with dissociative seizures (CODES): a pragmatic, multicentre, randomised controlled trial. *Lancet Psychiatry*. 2020;7(6):491-505.