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Furthering the Evidence of Comorbid Psychiatric Disorders in Pediatric Patients With Psychogenic Nonepileptic Seizures

Psychiatric Disorders in Children and Adolescents With Psychogenic Nonepileptic Seizures

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Objective: Knowledge regarding psychiatric disorders in children and adolescents with psychogenic nonepileptic seizures (PNES) is limited. This study outlines the spectrum and risk of psychiatric disorders in childhood-onset PNES. Methods: We performed a nationwide matched cohort study of children and adolescents with PNES 5 to 17 years of age at the time of diagnosis between January 1, 1996, and December 31, 2014. Two matched comparison groups were included: children and adolescents with epilepsy (ES), and children and adolescents without PNES or epilepsy, called healthy controls (HC). Outcomes were prevalent psychiatric disorders before index (i.e., date of diagnosis or corresponding date for HC) and incident psychiatric disorders 2 years after index. Relative risks (RRs) were calculated and adjusted for potential confounders. Results: We included 384 children and adolescents with validated PNES, 1,152 with ES and 1,920 HC. Among the cases of PNES, 153 (39.8%) had prevalent psychiatric disorders and 150 (39.1%) had incident psychiatric disorders. Compared to the ES and HC groups, children and adolescent with PNES had elevated risks of both prevalent psychiatric disorders (adjusted RRPNES/ES = 1.87, 95% confidence interval [CI] 1.59–2.21, adjusted RRPNES/HC = 5.54, 95% CI 4.50–6.81) and incident psychiatric disorders (adjusted RRPNES/ES = 2.33, 95% CI 1.92–2.83, adjusted RRPNES/HC = 8.37, 95% CI 6.31–11.11). A wide spectrum of specific psychiatric disorders displayed elevated RRs. Conclusions: Children and adolescents with PNES are at higher risk of a wide range of psychiatric disorders compared to children and adolescents with ES and HC. A careful psychiatric evaluation is warranted to optimize and individualize treatment.

Commentary

Psychogenic nonepileptic seizures (PNES) are a conversion disorder per DSM 5 and a dissociative disorder per ICD10. Whichever way one might characterize PNES, it is a disorder of paroxysmal motor, nonmotor or behavioral alteration without an EEG correlate to explain the change. As PNES is one of the most critical neuropsychiatric conditions associated with epilepsy,[1] an International League Against Epilepsy (ILAE) Taskforce on PNES was established. Between 2011 and 2017, there have been several publications spearheaded by the PNES Taskforce summarizing diagnosis of PNES[2] and management approaches.[3] Another ILAE publication has focused on identifying and closing the diagnosis and treatment gaps in PNES, and several opportunities for research were highlighted.[4] One of the key gaps that was identified was the lack of epidemiologic data on the incidence and prevalence of PNES in children. Another was the lack of population-based studies on the psychiatric comorbidities of PNES in various groups: specifically, children and older adults.

In the article that is the subject of this commentary, Hansen et al[5] performed a nationwide register-based cohort study using the Danish Health registry. Patients of ages 5–17 years with an incident diagnosis of PNES between 1996 and 2014 were studied. 384 children with PNES were identified, and the researchers recruited thrice the number of patients with epilepsy (ES) and 5 times the number of healthy controls (HC) for comparison. The main aims were to describe the spectrum of psychiatric diagnoses before diagnosis of PNES (prevalent psychiatric diagnoses) and in the 2 years following PNES diagnosis (incident psychiatric diagnoses).

How do Findings of this Population Study Tie in into Diagnosis and Treatment Gaps as Identified by ILAE in Pediatric PNES?

Epidemiology of Childhood PNES. Although not directly mentioned in the present study, the same cohort of patients was used to determine the rising incidence of PNES between 1996 to 2014. As against published incidence rates of 1.4–4.9/100,000/ year, this group has identified an increasing incidence

of PNES with maximum incidence of 7.4/100,000 person years in 2014.[6]

Etiology of PNES. There is no single etiological theory to explain PNES. The biopsychosocial model of PNES[7] identifies *predisposing factors* (including genetic, temperamental (behavioral/psychiatric), neurologic comorbidities, and early life trauma), *precipitating factors* (stressful physical/mental events), and *perpetuating factors* (lack of social support, avoidance, and isolation) in PNES. Although there is an overall understanding that premorbid psychiatric disorders are common in patients with PNES, the extent of these in pediatric patients had not been well studied so far outside of small series. In the present study, forty percent of the children (153/384) had prevalent psychiatric diagnoses before the diagnosis of PNES. The risk of prevalent psychiatric disorders was almost 2 times higher than in ES and 6 times higher than in HC. Additionally, the risk of incident psychiatric disorders was 2 times higher than in ES and 8 times higher than in HC. The spectrum of the prevalent psychiatric diagnoses included emotional disorders, adjustment disorders, neurodevelopmental disorders, and intellectual disorders in the PNES population, providing strong evidence of psychiatric and intellectual predisposing factors at a population level.

Diagnosis of PNES. The authors used clinically established methods to ascertain diagnosis (clinical characteristics and witnessed semiology). Although patients were not diagnosed with a video EEG, which is considered to be the gold standard in PNES diagnosis, the ILAE recommends recognizing PNES at lower levels of diagnosis to assess epidemiology since not all countries have access to video EEG.[4] These same authors have also validated the positive predictive value of their clinically based diagnosis of PNES,[6] further supporting this approach.

What Happens to These Patients After the PNES diagnosis?. The present study found that 39.1% of the PNES patients developed new psychiatric disorders after being diagnosed with PNES. The range of new psychiatric diagnoses (incident psychiatric diagnoses) included emotional disorders (anxiety and mood disorders), adjustment disorders, and neurodevelopmental disorders including ADHD, ASD, OCD, and tics. Additionally, > 40% of the PNES population received their first incident psychiatric diagnosis within 2 months of the diagnosis of PNES. As authors admit, it is very likely that the diagnosis of ES or PNES could bring greater attention to psychiatric comorbidity and therefore could have made it easier to identify new psychiatric problems. In Denmark, most of these psychiatric diagnostic codes were however found from inpatient hospital admissions—hence, irrespective of whether these incident psychiatric diagnoses were highlighted due to the PNES diagnosis, they were severe enough to merit inpatient treatment. It is therefore critical to establish psychiatric follow-up of PNES patients at the time of initial PNES diagnosis. Somatic symptom–related disorders (SSRD) were also prominent in the present PNES cohort. Hence, thorough screening for prevalent SSRD is indicated.

Treatment of PNES. Who oversees treating PNES? The authors indicate that their findings are important in planning the care of PNES patients. As indicated in the service gaps identified by ILAE,[4] most level 3 or 4 epilepsy centers in the USA diagnose patients, but do not treat after initial PNES diagnosis. In a prior publication on assessing patient perspectives about PNES, Rawlings et al highlight patient feelings of diagnostic uncertainty and abandonment.[8] In 2018, Rawlings et al also assessed healthcare practitioners' (HCPs) attitudes toward PNES. HCPs identified PNES as a psychosocial phenomenon, and treatment responsibilities were contested among various specialists with neurologists making the diagnosis in wealthier countries and psychiatrists in poorer nations.[9] Adopting a multidisciplinary approach to diagnosis and follow-up care using clinical care pathways has been associated with greater success in the treatment of these children.[10]

In conclusion, PNES can no longer remain a no man's land. This study highlights the bidirectional relationship between PNES and psychiatric disorders. At a time of increasing mental health needs of children and adolescents in general and PNES patients in particular, coordinated care between epileptologists and psychiatrists/psychologists is the need of the hour.

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