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PREVALANCE AND ASSOCIATION OF PSYCHOGENIC NON EPILEPTIC SEIZURE AND SEMIOLOGY ASSOCIATION WITH PSYCHIATRIC DISORDERS IN A SUB URBAN POPULATION IN A TERTIARY CARE CENTER IN SOUTH INDIA.

Neurology

Dr Sarika N Holla* Post Graduate, MD General Medicine. *Corresponding Author

Dr Sahar Shuja Khan Ghori Post Graduate, MD Psychiatry

Dr Shubham Dubey Senior Resident, Neurology

ABSTRACT

Psychogenic non epileptic seizures (PNES) or pseudo seizures are Functional Neurological Disorders where there are episodes of paroxysmal events with alteration of behaviour and consciousness due to psychological origin. We did a study to assess the association of psychiatric disorders and personality clusters with the semiology of PNES or pseudo seizures and the precipitating stimuli leading to the event. We did a cross sectional observational study in a cohort of 51 patients with seizures for a duration of 6 months. Out of 51, 20 cases were diagnosed as PNES or pseudo seizures. Psychiatric assessment was done to assess precipitating stimuli and associated psychiatric illness. The association of the individual semiology was assessed with personality disorder and psychiatric illness. In our study cohort, 39% cases of seizures were PNES or pseudo seizures. There was no significant association of the semiology of seizures with the psychiatry disorders and the precipitating stimuli. Our study conveys that PNES is seen in patients with psychiatric illness and precipitating stimuli, suggesting that psychosocial counselling and cognitive behavioral therapy is the most effective way to treat PNES.

KEYWORDS

pseudoseizures, psychiatric illness, psychogenic non epileptic seizures, precipitating stimuli

INTRODUCTION

Psychogenic non epileptic seizures (PNES) or pseudo seizures are Functional Neurological Disorders (FND) having episodes of paroxysmal events with alteration of behaviour and consciousness, the clinical manifestations resembling seizures that do not arise from epileptiform cortical discharges, but instead a psychological origin [1-4]. PNES was initially introduced as 'hysteria' in medical literature, later identified as a neurological condition, Hystero-epilepsy by 19th century French neurologist, Jean-Martin Charcot. PNES are one of the commonest differential diagnoses of epilepsy. International League Against Epilepsy (ILAE) identifies it as one among 10 most serious neuropsychiatric conditions linked with epilepsy [5]. A confirmed diagnosis is usually a diagnosis of exclusion. Absence of early diagnosis of PNES in seizure patients can lead to harmful and unnecessary use of antiepileptic drugs and can lead to a negative impact on the quality of life [6]. The management is different when compared to other types of seizures, thus the diagnosis becomes essential. PNES are commonly seen in young adults, predominantly females. About 20% of the patients, who experience seizure of any kind, obtain final diagnosis as PNES [7]. In DSM V, PNES are classified under somatoform disorders (mainly, conversion disorder) and/or dissociative disorders. Its also seen in association with other disorders like depression, anxiety, post-traumatic stress disorder (PTSD), and personality disorders[8-10]. It is considered to reflect individual's response to distress and behavioural problems. Genetic, neural and environmental factors add on to the psychological conditions or disorders [6]. In 2016, the recent classification of PNES by Magaudda et al showed 4 categories- 1) hypermotor, 2) akinetic, 3) focal motor and 4) PNES with subjective symptoms [11,12]. Semiological features that are seen in PNES and not in other types of seizures are fluctuating course, seizures lasting for more than 2 minutes, ictal eye closure, asynchronous limb movements, side to side head movements, hyperventilation. Few patients with PNES are also observed to have cognitive restraints such as memory and concentration difficulties [6]. A detailed neurological and psychiatric evaluation in the recent times has lead to early diagnosis and treatment of PNES [3]. Though diagnosis is common, data pertaining to PNES is seldom available in Indian population. Hence, we conducted this study to assess the prevalence, compare its association to psychiatric disorders diagnosed under DSM V in patients with PNES and to comprehend the personality clusters of patients with PNES.

METHODS-

This was an observational cross sectional study, where we studied the semiology of PNES and its association with psychiatric disorders in sub urban population in a tertiary care centre in Tamil Nadu. The study period was for 6 months from January 2020 to June 2020, which included 51 patients aged 16 to 48 years. Among 51 cases of seizures, after detailed neurological examination and psychiatric assessment 20 patients were diagnosed as PNES or pseudo seizures. Psychiatric history was obtained from each patient, added by information from relatives. Diagnosis of PNES was made on the basis of clinical history, ictal semiology of seizures, absence of epileptiform activity in EEG and absence of any radiological findings [6]. Relevant history included specific triggering factors for seizures, such as stress, pain, abuse, certain movements, sounds, and lights and the circumstances which precipitated the attack [13]. The semiology of PNES was correlated with the association of psychiatric disorder and personality clusters among the patients. Further analysis of PNES with sex distribution was done. Personality traits like cluster A, B, C were observed in the study cohort. Cluster A includes paranoid, schizoid, schizotypal personalities. Cluster B includes antisocial, borderline, histrionic, narcissistic personalities. Cluster C includes avoidant, dependent, obsessive compulsive personality disorder [14,15].

Patients with semiology of PNES with normal EEG and normal radiological findings were included under this study. Patients with epilepsy, abnormal EEG (ictal or inter ictal changes), radiological evidences for other CNS causes or other medical illnesses such as hyperglycemia, hypoglycemia, alcohol withdrawal, hypocalcemia, hypomagnesemia, electrolyte disturbances were excluded.

Statistical Analysis

The Statistical analysis was done using statistical SPSS software version 23. Descriptive statistics was given by frequency and graph. The association between two variable was found using chi-square test. P-value<0.05 was considered to be significant throughout the study.

RESULTS

In the current study, we studied 51 cases of seizures, of which 20 (39%) were PNES or pseudo seizures. Out of 20, 75% (n=15) cases were female. The age of the study group was between 16 to 48 years of age. No significant association was seen between any individual semiology and the psychiatric diagnosis with p-value >0.05.

The semiology was studied, post ictal reorientation was seen in all cases, asynchronous limb movements were seen in 95% (n=19), memory recall in 85%(n=17), consciousness preserved in 85%(n=17), ictal eye closure in 65%(n=13), hyperventilation in 55% (n=11), pelvic thrust in 50%(n=10), erratic head movement 45%(n=9), side to side head movement in 35%(n=7), ictal cry in 35%(n=7).

Among the cases, 10(50%) were cluster B and remaining 10(50%) were cluster C personality. The precipitating stimuli for the event was family issues in 30% (n=6), marital dispute in 20% (n=4), emotional stress in 15% (n=3), social stressor in 10% (n=2) (Table 1). Among the cases, depression was seen in 35% (n=7), dissociative disorder in 15% (n=3), PTSD in 10% (n=2), anxiety in 10% (n=2), OCD (obsessive

compulsive disorder) in 5 % (n=1), somatoform disorder in 5% (n=1), adjustment disorder in 5% (n=1) (Table 2).

All the cases showed normal EEG and normal radiological findings of brain.

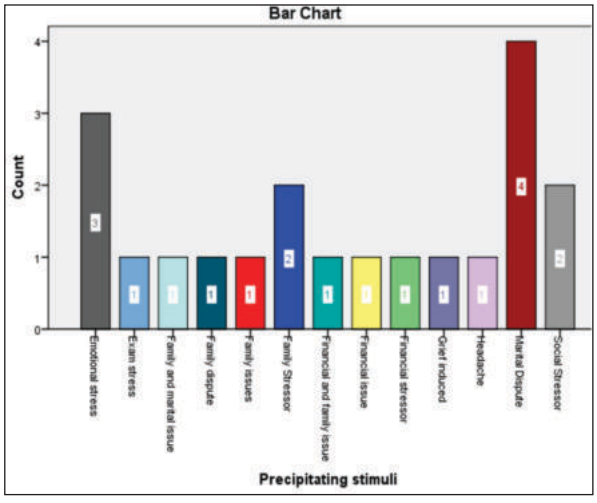

Table 1 – Precipitating stimuli in PNES

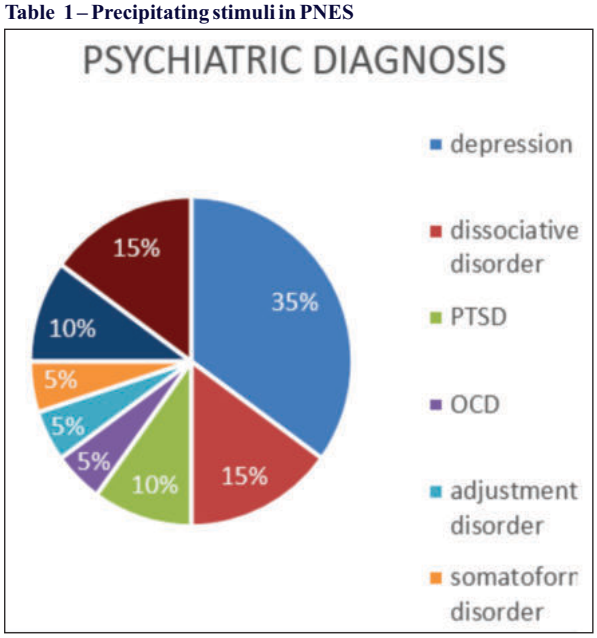

Table 2 – Psychiatric diagnosis in PNES

DISCUSSION

PNES or pseudo seizures is one of the subtype of Conversion disorders (CD), the other being Psychogenic Movement Disorder (PMD) [16]. PNES or pseudo seizures is merely a diagnosis of exclusion. At times, accurate diagnosis is made 7-10 years after the onset of disorder[17]. Although PNES can occur at any age, mean age of onset is 30.5years (SD +/- 13.7 years) as reported by Duncan et al [18]. Clinical and semiological presentation can help in distinguishing PNES or pseudo seizures from epileptic seizures [5]. In our study, we correlated each semiology of the seizures with the personality cluster and psychiatric diagnosis. Most of the semiology included motor symptoms. Observation of waxing and waning of consciousness, erratic side to side head movement, asynchronous body movement, pelvic thrust, ictal eye closure, ictal crying and post ictal recall of the event supports the diagnosis for PNES. The episode usually lasts for a longer duration in PNES [5]. In our study, there was no significant association of psychiatric diagnosis and personality cluster with the semiological features of PNES. However, depression was more common, followed by dissociative disorder. It is studied that depression, personality disorders and abuse history is more common in persistent PNES [19]. Hence, treating psychiatric illness like depression or anxiety, along with cognitive behavioural therapy shows better outcome and reduced chances for recurrence of seizure event [20].

A case control study done by Gupta.R including 100 PNES patients showed depression as the most common psychiatric comorbidity with others being obsessive compulsive disorder (OCD) and PTSD [21].

Based on our study there was no significant association of personality cluster with sex with p-value>0.05. The common personality clusters seen were Cluster B and C. PNES is more commonly associated with personality disorders, more frequently Cluster B and C [22, 23]. Cluster A is seen in minor population [22]. We also studied that there was no significant association of psychiatry diagnosis and sex with p-value >0.05. However, the study showed that PNES is seen more commonly in females.

Our study also showed that there was no significant association of precipitating stimuli with each semiology of the event with p-value >0.05. The common precipitating stimuli in our study was family stressors, marital dispute and emotional stressors. However, it is important that we look for adult or childhood trauma, depression, dissociative disorders in patients with PNES or pseudo seizures [10,24]. A global survey done by the International League Against Epilepsy (ILAE) which included 63 countries in 2017, demonstrates PNES as a major health issue around the world [25]. A case control study done by Kranick et al in the United States in 2017 showed that physical and sexual abuse was more common in patients with PNES compared to healthy volunteers [26].

The advantage of this study is that it is across sectional observational study. It shows the presence of associated psychiatric illnesses and the precipitating stimuli for the occurrence of PNES.

The drawback of this study was that the sample size was small and it failed to show association of each semiology of PNES with the psychiatric diagnosis, personality cluster and precipitating stimuli. In addition, the findings of the study of PNES are subjected to further research and analysis.

In conclusion, our study conveys that PNES is seen in patients with psychiatric illness with precipitating stimuli, suggesting that psychological approach is the most effective way to treat PNES[27, 28]. Overall prognosis is poor and associated with poor quality of life and increased level of disability [29,30]. Early and appropriate diagnosis can provide better health care to patients with PNES [25].

REFERENCES

[1] Reuber M, Elger CE. Psychogenic nonepileptic seizures: review and update. Epilepsy,Behav. 2003; **4**:205–16.
[2] S.R. Benbadis. The EEG in nonepileptic seizures**.** J ClinNeurophysiol. 2006; **24**: 340-52.
[3] The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. Geneva: WHO; 1992.
[4] Devinsky O, Gazzola D, LaFrance WC., Jr. Differentiating between nonepileptic and epileptic seizures. Nature Reviews Neurology. 2011;7:210–220.
[5] Anzellotti F, Dono F, Evangelista G, Di Pietro M, Carrarini C, Russo M, Ferrante C, Sensi SL, Onofrj M. Psychogenic non-epileptic seizures and pseudo-refractory epilepsy, a management challenge. Frontiers in Neurology. 2020;11:461.
[6] Perez DL, LaFrance WC. Nonepileptic seizures: an updated review. CNS spectrums. 2016 Jun;21(3):239-46.
[7] Kotsopoulos IA, de Krom MC, Kessels FG, Lodder J, Troost J, Twellaar M, et al. The diagnosis of epileptic and non-epileptic seizures. Epilepsy Res 2003;57:59-67
[8] Bailles E, Pintor L, Fernandez-Egea E. Psychiatric disorders, trauma, and MMPI profile in Spanish sample of non epileptic seizure patients. Gen Hosp Psychiatry 2004;26: 310–5.
[9] Reuber M, Pukrop R, Bauer J, Derfuss R, Elger CE. Multidimensional assessment of personality in patients with psychogenic non-epileptic seizures. J Neurol Neurosurg Psychiatry 2004;75:743–8.
[10] Bowman ES, Markand ON. Psychodynamics and psychiatric diagnosis of pseudoseizure subjects. Am J Psychiatry 1996;153:57–63.
[11] Magaudda A, Laganà A, Calamuneri A, Brizzi T, Scalera C, Beghi M, et al. Validation of a novel classification model of psychogenic nonepileptic seizures by video-EEG analysis and a machine learning approach. Epilepsy Behav. (2016) 60:197–201. doi: 10.1016/j.yebeh.2016.03.031
[12] Asadi-Pooya AA,Tinker J, Fletman E. Semiological classification of psychogenic nonepileptic seizures. Epilepsy Behav. (2016) 64:1–3.
[13] Benbadis SR. A spell in the epilepsy clinic and a history of "chronic pain" or "fibromyalgia" independently predict a diagnosis of psychogenic seizures. Epilepsy Behav 2005;6:264–5.
[14] Personality disorders, Section II, Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition(DSM-V)
[15] Simone Hoermann, Ph.D., Corinne E. Zupanick, Psy.D., & Mark Dombeck, Ph.D.DSM-V : The Ten Personality Disorders. Mentalhelp.net
[16] American Psychiatric Association., American Psychiatric Association. Task Force on DSM-IV. Diagnostic and statistical manual of mental disorders: DSM-IV-TR. 4. Washington, DC: American Psychiatric Association; 2000.
[17] Seneviratne, U, Ding, C, Bower, S, et al. Video-based training improves the accuracy of seizure diagnosis. J Neurol Neurosurg Psychiatry. 2014;85(4):466-470.
[18] Duncan, R, Graham, CD, Oto, M, Russell, A, et al. Primary and secondary care attendance, anticonvulsant and antidepressant use and psychiatric contact 5-10 years after diagnosis in 188 patients with psychogenic non-epileptic seizures. J Neurol Neurosurg Psychiatry. 2014;85(9):954-958.
[19] Kanner AM, Parra J, Frey M, Stebbins G, et al. Psychiatric and neurological predictors of psychogenic pseudoseizure outcome. Neurology. 1999;53:933–938.
[20] Huff JS, Murr N. Psychogenic Nonepileptic Seizures (PNES). InStatPearls [Internet]

2020 Mar 24.
[21] Gupta R, Garg D, Kumar N, Singh MB, Shukla G, Goyal V, Pandey RM, Srivastava AK. Psychiatric co-morbidities and factors associated with psychogenic non-epileptic seizures: a case-control study. Seizure. 2020 Oct;81:325-331. doi: 10. 1016/ j. seizure. 2020. 05.007. Epub 2020 May 22.
[22] Reuber M.,Pukrop R.,Bauer J.,Derfuss R.,Elger C.E.,Multidimensional assessment of personality, in patients with psychogenic non-epileptic seizures.J Neurol Neurosurg Psych. 2004; 75: 743-748
[23] Silva W.,Giagante B.,Saizar R.,D́Alessio L.,Oddo S.,Consalvo D.et al.,Clinical features and prognosis of non-epileptic seizures in a developing country.Epilepsia. 2001; 42: 398- 401
[24] Duncan R, Oto M. Predictors of antecedent factors in psychogenic nonepileptic attacks: Multivariate analysis. Neurology 2008;71:1000-5.
[25] Coraline Hingray, Wissam El-Hage, Rod Duncan, David Gigineishvili, Kousuke Kanemoto, W. Curt LaFrance, Alejandro de Marinis, Ravi Paul, Chrisma Pretorius, José F. Téllez-Zenteno, Hannah Wiseman, Markus Reuber Epilepsia (Series 4), November 2017
[26] Ekanayake V, Kranick S, LaFaver K, Naz A, Webb AF, LaFrance Jr WC, Hallett M, Voon V. Personality traits in psychogenic nonepileptic seizures (PNES) and psychogenic movement disorder (PMD): Neuroticism and perfectionism. Journal of psychosomatic research. 2017 Jun 1;97:23-9.
[27] Psychological interventions for psychogenic non-epileptic seizures: A meta-analysis. Carlson P, Nicholson Perry K Seizure. 2017 Feb; 45():142-150.
[28] Psychogenic nonepileptic seizures, conversion, and somatic symptom disorders. Benbadis SR Neurology. 2019 Feb 12; 92(7):311-312.
[29] Tannemaat, MR, van Dijk, JG. The terminology of psychogenic nonepileptic seizures: a historical perspective. Epilepsia. 2015;56(6):978-979.
[30] Myers, L, Lancman, M, Laban-Grant, O, et al. Psychogenic non-epileptic seizures: predisposing factors to diminished quality of life. Epilepsy Behav. 2012;25(3):358-362.