Psychological characteristics of patients with newly developed psychogenic seizures

T van Merode, M Twellaar, I A W Kotsopoulos, A G H Kessels, H Merckelbach, M C T F M de Krom, J A Knottnerus

OBJECTIVES: To assess psychopathological symptoms and history of childhood trauma in patients with newly developed psychogenic seizures.

METHODS: Using validated scales, 178 patients from the general population diagnosed with newly developed seizures were assessed, at a point in time when the nature of their seizures was yet unknown to either doctors or patients. After standardised neurological examination, 138 patients were diagnosed with non-psychogenic seizures (NPS), while 40 patients were found to have psychogenic seizures (PS). To evaluate possible differences between the genders and the diagnostic groups, univariate analyses of variance were done.

RESULTS: PS patients reported significantly more comorbid psychopathological complaints, dissociative experiences, anxiety, and self-reported childhood trauma than NPS patients. In addition, PS patients had lower quality of life ratings than NPS patients. These effects were not modulated by gender.

CONCLUSIONS: The results of the present study indicate that patients with newly developed PS constitute a group with complex psychopathological features that warrant early detection and treatment.

The aetiology of non-epileptic non-organic seizures, also referred to as psychogenic seizures, non-epileptic attack disorder or pseudoseizures, is largely unknown. In particular, there are no studies addressing the psychological features of new incident cases.

Patients with non-epileptic non-organic seizures (hereafter called psychogenic seizures), usually are first seen and treated by neurologists. Then, as the nature of the seizure becomes obvious, these patients are generally referred to psychiatric care facilities. Nearly all studies on the psychological features of patients with psychogenic seizures rely on prevalent cases. The problem with this approach is that patients have extensive experience with their seizures, may come from selected populations resulting in selection and case severity bias, and/or may have been or still are on antiepileptic or other medication. Thus, precisely because of their seizures, new psychogenic comorbidity may obscure the original antecedents and correlates. Although studies on prevalent cases have yielded valuable information, such studies do not provide unbiased insight into the early psychological characteristics of psychogenic seizures.

Systematic comparisons between patients with recent onset psychogenic seizures and patients with recent onset of non-psychogenic seizures may lead to a better understanding of psychological concomitants and, perhaps, the aetiology of psychogenic seizures. Assessment of coping styles, comorbid psychopathology, and self-reported childhood abuse, especially when prospectively conducted at first presentation of the seizures, may well inform treatment strategies.

In the present study we assessed the psychological characteristics of patients with psychogenic seizures and non-psychogenic seizures at the time of first presentation at the hospital—that is, when the final diagnosis had not yet been made.

METHODS

Patients

The study was conducted as part of a prospective population based research project that covered a well circumscribed area in the southern part of the Netherlands with approximately 190,000 inhabitants, served by a single hospital. Included were all newly presenting patients aged more than 14 years suspected of having had a first seizure. Patients were identified over a two year period (from October 1998 to October 2000) by medical practitioners in the General Practice and Emergency Room who were given information and instructions about the inclusion criteria. Patients with acute symptomatic seizures were excluded from the study. Identified patients were evaluated and neurologically examined in a standardised manner. Two neurologists independently evaluated all cases and classified a patient’s seizure as a non-psychogenic seizure (NPS; epileptic seizure or non-epileptic seizure of organic origin) or a psychogenic seizure (PS; non-epileptic seizure of non-organic origin). Their definitive classification, six months after the index seizure, was based on clinical manifestations, electroencephalogram findings, neuroimaging, laboratory, and electrocardiogram data. In case of disagreement, consensus was reached with the help of a third neurologist. Interrater agreement (κ) was 0.93.

Measurements

At the time of the standardised evaluation (usually only a couple of days after their first seizure), when the diagnosis was still unknown, each patient was administered (double blind, usually within days after the index seizure) the following well-validated questionnaires and scales:

- Symptom Check List (SCL-90), which is a multi-dimensional index of psychopathology.

Abbreviations: CTQ, Childhood Trauma Questionnaire; DES, Dissociative Experience Scale; NPS, Non-psychogenic seizures; PS, psychogenic seizures; QOLIE, Quality of Life in Epilepsy Inventory; SAMT, Semantic Autobiographical Memory Test; SAS, Self-rating Anxiety Scale; SCL, Symptom Check List; STAI, State-Trait Anxiety Inventory; UCL, Utrecht Coping List.
RESULTS

The final sample consisted of 178 patients (79%) from a total of 226 and these patients completed all questionnaires. Of 178, 138 patients were diagnosed with NPS (93 epileptic and 45 non-epileptic organic) and 40 patients with PS. Results of the questionnaires were incorporated into the database by the second author, who was blinded and unaware of the diagnosis at that time.

The scores of the NPS and PS groups were subjected to 2×2 ((groups: NPS v PS)×(men v women)) analyses of variance (ANOVA) with age as a covariate. The significance level was set at 0.05.

DISCUSSION

In the current study, the proportion of women in the PS group (65%) was not substantially higher than that in the NPS group (50%). This is at odds with previous studies, in which percentages of women in psychogenic seizure samples were as high as 75–83%. A crucial difference between our study and previous work is that our study relied on a prospective approach aiming at incident cases in the general population. Therefore it lacks the shortcomings of prevalent studies like severity bias and selection bias.

On a similar note, for both PS and NPS patients, we failed to find gender-related differences in the questionnaire scores. Again, this may be surprising, as some authors have argued that in general, women display more psychopathological symptoms than men. Some authors seem to assume that this explains the alleged overrepresentation of women among patients with PS, and some have suspected a causal link between gender-linked psychopathology and psychological seizures. Our results do not support this view.

Like gender, age did not contribute to the questionnaire scores of PS and NPS patients. There was one notable exception: older patients reported more childhood abuse on the CTQ than younger patients. We suspect that averse childhood experiences during World War II as well as the lack of societal sensitivity to issues related to child abuse in years before the 1980s account for the higher levels of self-reported childhood abuse in our older patients. Although gender and age did little to explain differences between PS and NPS patients, a straightforward pattern emerged in the present study. That is, PS patients reported more psychopathological complaints on the SCL-90, more dissociative symptoms (as indexed by the DES), and more state and trait anxiety (as measured by SAS and STAI).

Table 1 Results of the univariate analysis of variance

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Sex</th>
<th>Group (NPS/PS)</th>
<th>Interaction</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCL</td>
<td>0.10</td>
<td>0.00*</td>
<td>0.87</td>
<td>0.95</td>
</tr>
<tr>
<td>CTQ</td>
<td>0.98</td>
<td>0.03*</td>
<td>0.97</td>
<td>0.00*</td>
</tr>
<tr>
<td>DES</td>
<td>0.79</td>
<td>0.04*</td>
<td>0.49</td>
<td>0.77</td>
</tr>
<tr>
<td>SAS</td>
<td>0.05</td>
<td>0.00*</td>
<td>0.58</td>
<td>0.71</td>
</tr>
<tr>
<td>STAI-state</td>
<td>0.14</td>
<td>0.01*</td>
<td>0.25</td>
<td>0.18</td>
</tr>
<tr>
<td>STAI-trait</td>
<td>0.12</td>
<td>0.03*</td>
<td>0.10</td>
<td>0.46</td>
</tr>
<tr>
<td>QOL</td>
<td>0.29</td>
<td>0.00*</td>
<td>0.27</td>
<td>0.45</td>
</tr>
<tr>
<td>UCL-ACT</td>
<td>0.26</td>
<td>0.25</td>
<td>0.75</td>
<td>0.73</td>
</tr>
<tr>
<td>UCL-PAS</td>
<td>0.40</td>
<td>0.52</td>
<td>0.34</td>
<td>0.05</td>
</tr>
<tr>
<td>SAMT</td>
<td>0.51</td>
<td>0.45</td>
<td>0.76</td>
<td>0.75</td>
</tr>
</tbody>
</table>

*p<0.05

For abbreviations see text.
complaints, along with reports of aversive childhood experiences and poor quality of life. Clearly, this issue warrants prospective longitudinal studies. Such studies are important given that early differential diagnosis of true epileptic versus psychogenic fits is notoriously difficult. Better diagnostic tools are urgently needed in this domain, as are early treatment interventions for those who suffer from PS.

Authors’ affiliations
T van Merode, M Twellaar, J A Knottnerus, Department of General Practice, Maastricht University, Maastricht, the Netherlands
I A W Kotsopoulos, M C T F M de Krom, Department of Neurology, Maastricht University Hospital, Maastricht, the Netherlands
A G H Kessels, Department of Clinical Epidemiology and Medical Technology Assessment, Maastricht University Hospital, Maastricht, the Netherlands
H Merckelbach, Department of Psychology, Maastricht University, Maastricht, the Netherlands

Competing interests: none declared

Correspondence to: T van Merode, Maastricht University, Department of General Practice/Women and Health, PO Box 616, 6200 MD Maastricht, the Netherlands; Tiny.vanMerode@hag.unimaas.nl

Received 15 April 2003
In revised form 4 November 2003
Accepted 14 November 2003

REFERENCES
5 Bowman ES. Etiology and clinical features of pseudoseizures. Relationship to trauma, depression, and dissociation. Psychosomatics 1993;34:333–42.