ASSOCIATION BETWEEN CHRONIC PAIN OR FIBROMYALGIA AND PSYCHOGENIC SEIZURES

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Abstract. A review of the records of all patients evaluated in a single epilepsy clinic for refractory seizures over 5 years was undertaken. The review focused on patients who eventually received a definitive diagnosis with EEG-video monitoring. Specific data were collected on patients who carried a diagnosis of “fibromyalgia” or “chronic pain.” Of 28 patients with a fibromyalgia diagnosis and 8 patients with diagnosis of chronic pain (total 36), 27 (75%) were found to have experienced psychogenic nonepileptic seizures (PNES) (predictive value 75%). Sensitivity was 3%, and specificity was 99%. This finding supports the hypothesis that psychogenic factors are an important factor in fibromyalgia or chronic pain.

Descriptors. chronic pain, fibromyalgia, PNES, psychogenic nonepileptic seizures, psychogenic seizures, psychogenic symptoms

AJPM 2005;15:117-119. Received: 06-30-05; Accepted: 09-02-05

INTRODUCTION

The role of psychogenic factors in fibromyalgia is controversial (1,2). Psychogenic nonepileptic seizures (PNES) are found in 20-30% of patients presenting at epilepsy centers for intractable seizures and can be firmly diagnosed with EEG-video monitoring (3,4,5). Thus, a firm diagnosis of PNES can be used as evidence for an underlying psychopathology. The author investigated a possible association between an antecedent diagnosis of fibromyalgia or chronic pain and an eventual diagnosis of PNES.

METHODOLOGY

The author reviewed the records of all patients evaluated in a single epilepsy clinic for refractory seizures over 5

Preliminary Findings
years. The review focused on patients who eventually underwent EEG-video monitoring and received a firm diagnosis. The records of patients who carried a diagnosis of fibromyalgia or chronic pain were collected. These diagnoses had to be stated as such, and patients had to be under the care of a pain specialist at the time of the initial visit.

The author then looked at the eventual diagnosis of these patients following prolonged EEG-video monitoring. A recorded episode was required for diagnosis; the episode could occur spontaneously or upon induction (4,5). Only episodes with bilateral motor symptoms or loss of awareness were considered diagnoses of PNES (i.e., episodes compatible with "simple partial" seizures were not included). When an event was recorded, videos were reviewed with patients and families to determine if the event was the habitual type.

**RESULTS**

Over the 5-year period, 308 patients were diagnosed with PNES (see Table I). The author and his associates identified 28 patients with a diagnosis of fibromyalgia and 8 with a diagnosis of chronic pain, for a total of 36 patients. After EEG-video monitoring, 27 ended-up with a diagnosis of PNES. Five were found to have epilepsy, 2 other organic spells, and 2 received no diagnosis. Thus, the positive predictive value of a diagnosis of fibromyalgia or chronic pain was 27/36 or 75%. Sensitivity was 3%, and specificity was 99%. The association between fibromyalgia or chronic pain and PNES was statistically significant (chi-square 34.75 with Yates correction, $p < 0.001$).

**DISCUSSION**

These findings suggest that a history of fibromyalgia or chronic pain has a high association (predictive value 75%, specificity 99%) with an eventual diagnosis of PNES. How the two relate to one another is not completely clear, but they likely have in common some degree of psychological distress. One possibility is that the discomfort associated with chronic pain results in such psychological distress that it results in PNES. Another possibility is that fibromyalgia and chronic pain, like PNES, are caused, at least in part, by significant psychological distress (1,2).

Psychogenic symptoms are ubiquitous and are dealt with in all specialties of medicine (6). From a psychiatric viewpoint, psychogenic symptoms can be classified as somatoform disorders, factitious disorder, or malingering. Somatoform disorders are those where symptoms

<table>
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<th>Table I. Summary of data.</th>
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<tr>
<td><strong>Chronic pain or fibromyalgia</strong></td>
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<tr>
<td><strong>PRESENT</strong></td>
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<tr>
<td>Psychogenic non-epileptic seizures</td>
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<tr>
<td>Not psychogenic non-epileptic seizures</td>
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- Positive predictive value = TP/(TP + FP) + 27/36 = 75%
- Negative predictive value = TN/(FN + TN) = 281/1006 = 28%
- Sensitivity = TP/(TP + FN) = 27/308 = 9%
- Specificity = TN/(FP + TN) = 725/734 = 99%
- Chi-square 34.75 with Yates correction, $p < 0.01$
are not consciously produced, and include conversion disorder (with PNES) and psychogenic pain (7). By contrast, in factitious disorder of malingering, the symptoms are consciously produced (i.e., feigned) (3,6,7). At least for PNES, it is generally accepted that the vast majority of patients are in the unconscious (somatoform) category, i.e., not consciously faking; but unfortunately this is often misunderstood (3,6). The situation is more difficult for so-called psychogenic pain. Psychogenic symptoms can be more or less provable depending on what they are (6). With EEG-video monitoring, PNES are probably the most provable psychogenic symptoms (3-6), and, interestingly, pain is likely the least provable symptom, since it is by definition subjective. Some may contend that the experience of pain is, by definition, psychogenic. This raises questions about the entire concept of psychogenic pain, although it is a DSM-IV diagnosis, and this diagnosis is largely discredited by pain specialists (8). Thus, the dichotomy between organic and psychogenic symptoms, while it may be appropriate in some fields, may not be applicable to pain.

The present study has several limitations. First, the prevalence of fibromyalgia/chronic pain was relatively low; so the numbers are small. Second, the author and his associates analyzed patients with a reported diagnosis of chronic pain/fibromyalgia. Some diagnoses may have been inaccurate, and this may even be a reason for the association that was found. Thus, an important follow-up study should analyze if this association persists with diagnoses of chronic pain/fibromyalgia made rigorously according to diagnostic (ACR) criteria, and preferably in a prospective fashion. However, the purpose of the present investigation was to analyze an association between an existing situation (diagnosis of chronic pain/fibromyalgia and being under the care of a pain specialist) with PNES. Third, the patients in this study underwent EEG-video monitoring because their seizures were poorly controlled despite antiepileptic drugs. Thus, it must be pointed-out that the high predictive values found in the present study apply to patients with refractory seizures and should not be extrapolated to patients with seizures in general. In patients with refractory seizures (i.e., seizures that persist despite medications), a history of fibromyalgia or chronic pain should raise the suspicion of PNES and prompt referral for EEG-video monitoring.

REFERENCES