The outcome of neurology outpatients with medically unexplained symptoms: a prospective cohort study

A J Carson, S Best, K Postma, J Stone, C Warlow, M Sharpe

Background: In a previous cross sectional study of 300 consecutive new attenders at neurology outpatient clinics, 90 were detected with symptoms that were rated as “not at all” or only “somewhat” explained by organic disease.

Objective: To report a follow up study of this cohort.

Methods: Patients were reinterviewed by telephone eight months after their initial assessment. They were asked to rate their overall improvement on a clinical global improvement scale, and their health status on the medical outcome short form 36 item scale (SF-36). The PRIME MD interview was administered to determine psychiatric diagnoses. Neurological and primary care records were reviewed for any changes in diagnostic opinion during the follow up period.

Results: Of the 90 eligible patients, 66 (73%) participated in follow up. Among these, five (8%) rated themselves as “much worse,” four (6%) as “somewhat worse,” 27 (40%) as “just the same,” 15 (23%) as “somewhat better,” and 15 (23%) as “much better.” There were no cases in which an organic cause for the presenting complaint was uncovered during the follow up period. Poorer physical function at baseline was the only predictor of poorer outcome at follow up.

Conclusions: Over half the patients who presented to neurologists with symptoms that were rated as largely or completely medically unexplained had not improved eight months later. In no case was a disease explanation for the original presenting symptoms subsequently identified.

METHODS

Initial assessment

The initial study has been described in detail elsewhere. In an earlier paper “Do medically unexplained symptoms matter?” we found that 30% of new referrals to general neurology outpatient clinics had symptoms which were rated by the assessing neurologist as “not at all” or “somewhat” explained by organic disease. These patients rated their disability as highly as those with identified neurological disease. In addition, they reported higher rates of depression and anxiety disorders. We concluded that medically unexplained symptoms were an important cause of morbidity and that they did indeed matter. However, we were unable to report on prognosis.

Although there are a few outcome studies for specific conversion symptoms such as motor conversion disorder and pseudoseizures, these represent only a small proportion of patients attending neurological clinics with medically unexplained symptoms (MUS). In addition there have been outcome studies of “hysteria,” but these have largely been in psychiatric populations or retrospective. We are not aware of any studies that have examined the outcome of a range of medically unexplained symptoms in neurological outpatients prospectively.

We therefore conducted a prospective eight month follow up of all the patients who at the initial assessment had symptoms that were rated by the neurologist as “not at all” or only “somewhat” explained by organic disease. Our aims were to determine the degree of global clinical improvement, if any, and the changes in health status and psychiatric status.

Follow up assessment

This study is a follow up assessment of the 90 patients with MUS eight months after their initial assessment. The assessment consisted of a self rated five point clinical global improvement (CGI) scale and a repeat of the measures used in the initial assessment. All assessments were made by telephone interview. When a patient had no telephone, or preferred to see the interviewer, or where there was communication difficulty, a face to face interview was conducted. Good agreement has been reported between telephone and face to face diagnostic interviews.

The interviews were conducted by AC and KP, both of whom had been trained in psychiatric diagnostic assessment.

The patients’ neurology and general practice case notes were also examined at follow up, and the cases discussed with the relevant clinician where necessary, in order to record any change in diagnostic opinion.

Abbreviations: CGI, clinical global improvement scale; DSM IV, Diagnostic and Statistical Manual of Mental Disorders, 4th edition; MUS, medically unexplained symptoms; PRIME MD, primary care evaluation of mental disorders; SF-36, short form 35 item medical outcome study scale.

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First, we made a comparison of the findings at initial assessment by clinical global improvement in order to identify possible predictors of poor outcome. We would have liked to conduct regression analyses but felt that small numbers prohibited such a strategy.

RESULTS

Of the 90 patients who initially presented to general neurology clinics with symptoms that were medically unexplained, 66 (73%) participated in the follow up assessment. The mean age of those who participated was 42 years; 24 (36%) were male and 42 (64%) female. There were no substantive or statistically significant differences between those subjects who did and did not participate (table 1).

The clinical global improvement scores are shown in table 2. It can be seen that 36 of the sample (55%; 95% confidence interval [CI], 42% to 67%) remained the same or got worse, compared with 30 (45%; 95% CI, 33% to 58%) who improved. Clinical global improvement was associated with improvement across a range of functions including physical function, degree of pain, social function, and mental state. Those who rated themselves as improved reported significantly greater improvement across all SF-36 scores and had fewer anxiety or depressive disorders at follow up (table 3).

Review of the neurological case records was completed for all 90 patients. Review of the primary care records was only possible for 58 of the 66 patients who participated in follow up (in three cases the patients did not wish their general practice case records to be reviewed and in the other five cases the general practitioners refused permission despite the patients who did not, in order to assess the possibility of systematic bias in the follow up sample. Second, we described the clinical global improvement and changes in health status and mental state of the patients followed up. Third, we examined the findings at baseline by clinical global improvement in order to identify possible predictors of poor outcome. We would have liked to conduct regression analyses but felt that small numbers prohibited such a strategy.

Table 1 Comparison of patients followed up with those not followed up according to baseline characteristics

<table>
<thead>
<tr>
<th>Followed up</th>
<th>Not followed up</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>66</td>
<td>24</td>
</tr>
<tr>
<td>Mean age</td>
<td>42</td>
<td>39</td>
</tr>
<tr>
<td>Number male</td>
<td>24 (36%)</td>
<td>9 (18%)</td>
</tr>
<tr>
<td>Number with emotional disorder</td>
<td>44 (67%)</td>
<td>16 (67%)</td>
</tr>
</tbody>
</table>

*Student’s t test.
†χ² test.

The study was approved by the local research ethics committee.

Analysis

First, we made a comparison of the findings at initial assessment between those who participated in follow up and those who did not, in order to assess the possibility of systematic bias in the follow up sample. Second, we described the clinical global improvement and changes in health status and mental state of the patients followed up. Third, we examined the findings at baseline by clinical global improvement in order to identify possible predictors of poor outcome. We would have liked to conduct regression analyses but felt that small numbers prohibited such a strategy.

Table 2 The eight month self rated clinical global improvement (n=66)

<table>
<thead>
<tr>
<th>Clinical global improvement</th>
<th>Number of subjects</th>
<th>Per cent (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much worse</td>
<td>5</td>
<td>8% (3% to 17%)</td>
</tr>
<tr>
<td>Somewhat worse</td>
<td>4</td>
<td>6% (2% to 15%)</td>
</tr>
<tr>
<td>Just the same</td>
<td>27</td>
<td>41% (29% to 54%)</td>
</tr>
<tr>
<td>Somewhat better</td>
<td>15</td>
<td>23% (13% to 35%)</td>
</tr>
<tr>
<td>Much better</td>
<td>15</td>
<td>23% (13% to 35%)</td>
</tr>
</tbody>
</table>

CI, confidence interval.

Table 3 The eight month outcome in terms of health status and mental state, also showing results by dichotomy of global clinical improvement into “same or worse” or “improved” (n=66)

<table>
<thead>
<tr>
<th></th>
<th>Whole cohort</th>
<th>Same or worse</th>
<th>Improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number (per cent, 95% CI)</td>
<td>66</td>
<td>36 (55%, 42% to 67%)</td>
<td>30 (45%, 33% to 58%)</td>
</tr>
<tr>
<td>Mean change in SF-36 score*</td>
<td>-6 to -2</td>
<td>-9 to -14 to -8</td>
<td>7 (2 to 12)</td>
</tr>
<tr>
<td>Change in physical function</td>
<td>-2 to 11</td>
<td>21 to 8 to 6</td>
<td>34 (20 to 48)</td>
</tr>
<tr>
<td>Change in physical role functioning</td>
<td>-1 to 0</td>
<td>2 to -7 to 6</td>
<td>17 (7 to 27)</td>
</tr>
<tr>
<td>Change in bodily pain</td>
<td>7 (1 to 13)</td>
<td>-6 (17 to 5)</td>
<td>19 (10 to 29)</td>
</tr>
<tr>
<td>Change in social function</td>
<td>5 (3 to 13)</td>
<td>-6 (-17 to 5)</td>
<td>19 (10 to 29)</td>
</tr>
<tr>
<td>Number with emotional disorder† at follow up (per cent, 95% CI)</td>
<td>42 (63%, 51% to 75%)</td>
<td>30 (83%, 67% to 93%)</td>
<td>12 (40%, 22% to 59%)</td>
</tr>
</tbody>
</table>

*Although the raw SF-36 scores had a non-parametric distribution, the “change” scores followed a normal distribution.
†Emotional disorder is any of the following DSM IV diagnoses: major depressive disorder, minor depressive disorder, dysthymia, panic disorder, generalised anxiety disorder, anxiety disorder NOS as identified on the PRIME MD interview.
‡Kruskall Wallis test for comparison of medians and non-parametric confidence intervals.

Table 4 Predictors from baseline assessment of eight month outcome (n=66)

<table>
<thead>
<tr>
<th></th>
<th>Same or worse</th>
<th>Improved</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number (per cent, 95% CI)</td>
<td>36 (55%, 42% to 67%)</td>
<td>30 (45%, 33% to 58%)</td>
<td>0.4*</td>
</tr>
<tr>
<td>Mean age (years) (95% CI)</td>
<td>43 (39 to 47)</td>
<td>39 (35 to 43)</td>
<td>0.6†</td>
</tr>
<tr>
<td>Number male (per cent, 95% CI)</td>
<td>11 (31%, 16% to 48%)</td>
<td>13 (43%, 26% to 63%)</td>
<td>0.3†</td>
</tr>
<tr>
<td>Median SF-36 score (95% CI)</td>
<td>68 (45 to 90)</td>
<td>85 (70 to 95)</td>
<td>&lt;0.021‡</td>
</tr>
<tr>
<td>Physical function</td>
<td>37 (8 to 75)</td>
<td>37 (8 to 100)</td>
<td>1.1t</td>
</tr>
<tr>
<td>Bodily pain</td>
<td>41 (32 to 62)</td>
<td>62 (41 to 74)</td>
<td>0.1†</td>
</tr>
<tr>
<td>Social function</td>
<td>36 (25 to 62)</td>
<td>75 (50 to 100)</td>
<td>0.1†</td>
</tr>
<tr>
<td>Number with emotional disorder§ at baseline assessment (per cent, 95% CI)</td>
<td>26 (72%, 61 to 83%)</td>
<td>18 (60%, 48 to 72%)</td>
<td>0.3†</td>
</tr>
</tbody>
</table>

*Student’s t test.
†Kruskall Wallis test for comparison of medians and non-parametric confidence intervals.
‡Emotional disorder is any of the following DSM IV diagnoses: major depressive disorder, minor depressive disorder, dysthymia, panic disorder, generalised anxiety disorder, anxiety disorder NOS as identified on the PRIME MD interview.
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