Letters

Psycological distress after stroke

Sir: Various studies have reported the presence of depression in patients affected by stroke; the prevalence rates found in most such research range from 30% to 60%. However, less data are available on the presence of other types of psychological distress in such patients.

The purpose of this investigation was to evaluate the presence of both depression and other emotional disturbances which may represent specific psychological reactions to stroke; differences between patients who have recently undergone a stroke and those in whom the injury occurred some time ago were also examined.

The study was carried out on 30 consecutive patients with unequivocal evidence of cerebrovascular disorder with resultant hemiplegia (13 with lesions of the non-dominant hemisphere, 14 with lesions of the dominant hemisphere and three with bilateral involvement). Seventeen were tested within 45 days of the episode and 13 8-12 months after it. Seven patients who presented a severe global aphasia were excluded from the study. The sample included: 16 men and 14 women, mean age 68.6 years (SD 10.8); 15 were married, 13 widowers/widows and two never married. Years of schooling ranged from 5 to 18 with a mean of 6.3. No differences were found between the group with recent lesions and that in which the injuries had occurred some time ago for either socioeconomic variables or site of the lesion.

The control subjects were matched with the patients for sex, age (±2 years; mean age for this group was 68.4 yr and SD 11), marital status, level of schooling, occupational conditions, area of residence (urban or rural) and type of illness (acute or chronic). The controls were patients affected by diseases not directly involving the CNS; the diagnoses include the following: liver cirrhosis, lung cancer, acute intestinal occlusion and congestive heart failure.

Psychological distress was evaluated with the Symptom Distress Checklist (SCL-90) in an Italian version devised by the authors. This questionnaire is made up of 90 items, the responses to which are graded from "not at all" = 0 to "extremely" = 4. The SCL-90 permits an evaluation of nine symptomatological areas: Somatization (S), Obsessiveness-Compulsiveness (OC), Interpersonal Sensitivity (IS), Depression (D), Anxiety (A), Hostility (H), Phobic Anxiety (PA), Paranoid Ideation (PI) and Psychoticism (P). There are three further items for the measurement of sleeping disturbances (Sl, Di). The test was read to all the patients, who evaluated the severity of their perceived symptomatology by choosing one of the five possible responses given by the SCL-90.

The values obtained on the test by patients and controls are shown in table 1. The stroke subjects obtained higher scores than the controls on the OC, D and Sl Di subscales. Focusing on the frequency distribution rather than mean scores we can see that, on many of the subscales, more than 70% of both patients and controls obtained a score of less than 1, indicating minimal levels of psychological distress in these symptom complexes. Moderate (scores of between 1 and 2) to high (scores of more than 2) levels of psychological distress were reported by more than 30% of the stroke patients on subscales: Sl Di (66%), D (63%), OC (46%) and S (40%), and by more than 30% of the controls on the subscales: Sl Di (53%) and D (37%). Considering the time elapsed since the stroke, we found that patients whose injury had occurred sometime ago scored higher than the recent stroke subjects on subscales D and PA (table 2). An analogous difference was found for the controls when chronic and acute illnesses were compared (table 2). There were no differences between the patients of the experimental group with lesions of the left hemisphere and those with lesions of the right hemisphere for any of the subscales.

Our data show that there is a high prevalence of depression among patients affected by stroke; this finding is in agreement with previous studies which have emphasised the considerable risk of depression in such subjects. It is interesting to note that depression tends to become gradually more severe as time since the episode elapses and the disease passes from an acute to a chronic stage; this finding is in partial agreement with a previous investigation by Robinson et al. On exclusion of the somatisation subscale, whose scores may be influenced by the somatic symptoms of the disease, it can be seen that the stroke patients report a higher degree of psychological distress on the subscales measuring obsessiveness-compulsiveness and sleeping disturbances. These latter disturbances may be linked to hospitalisation, but since the difference from the control group is mainly due to the intensity of the disturbances (the percentage of prevalence are fairly similar in the two groups), it is possible that they are also linked to depression, which is known to be associated with

<table>
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<tr>
<th>Table 1</th>
<th>Total groups mean scores and frequency distribution of stroke and control patients by dimension scores</th>
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<tr>
<td>Controls N = 30</td>
<td>Stroke patients N = 30</td>
</tr>
<tr>
<td>Dimension scores</td>
<td>Total group mean score</td>
</tr>
<tr>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td><strong>Somatisation</strong></td>
<td>21</td>
</tr>
<tr>
<td><strong>Obsessiveness-Compulsiveness</strong></td>
<td>24</td>
</tr>
<tr>
<td><strong>Interpersonal Sensitivity</strong></td>
<td>29</td>
</tr>
<tr>
<td><strong>Depression</strong></td>
<td>19</td>
</tr>
<tr>
<td><strong>Anxiety</strong></td>
<td>27</td>
</tr>
<tr>
<td><strong>Hostility</strong></td>
<td>27</td>
</tr>
<tr>
<td><strong>Phobic Anxiety</strong></td>
<td>26</td>
</tr>
<tr>
<td><strong>Paranoid Ideation</strong></td>
<td>28</td>
</tr>
<tr>
<td><strong>Psychoticism</strong></td>
<td>29</td>
</tr>
<tr>
<td><strong>Sleep Disturbances</strong></td>
<td>14</td>
</tr>
</tbody>
</table>

Student t test, *p < 0.02 (two tailed); †p < 0.025 (two tailed)
insomnia and sleeping disorders. As for the obsessive-compulsive disturbances, whose values are rather high and hence indicate a fairly characteristic pattern, it should be noted that while the scale mainly measures clearly obsessive-compulsive symptoms such as the inability to get rid of undesired thoughts, words or ideas, the need to check and double check what is done, etc, it also contains questions aimed to evaluate more general cognitive difficulties and could hence be influenced, in the stroke group, by organic symptoms due to the lesion to the CNS. Lastly, we draw attention to the fact that with the passing of time phobic type symptoms often tend to appear in stroke patients.

In conclusion, our data confirm depression as the main form of psychological distress appearing after stroke, but also demonstrate the existence of other response patterns. Since some of these patterns appear to vary in time, longitudinal studies would be of great help in increasing our understanding of the problem.

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References


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Letters

Toxic shock syndrome presenting as cerebral infarct

Sir: Neuropsychological sequelae such as impaired memory, calculation and poorly sustained concentration have been described after the toxic shock syndrome. We report a man whose presentation was with a cerebral infarct.

A 38-year-old taxi driver presented with 12 hours of severe diarrhoea, vomiting and myalgia. Immediately prior to admission he suddenly collapsed in his kitchen. On arrival he was semi-conscious and shocked with a pyrexia 40–0°C, pulse 110 and a systolic blood pressure of 80 mm Hg. He had purposeful movement to pain of the left side of his body but not his right, and the right plantar was extensor. All cultures including blood and lumbar puncture were negative. He was treated with intravenous ampicillin, flucloxacillin, gentamicin and steroids. Within 24 hours he developed respiratory failure with bilateral interstitial pulmonary infiltrates and required ventilation for 8 days. His platelet count fell to 69 × 10^9/l and there was a rise in titre of fibrin degradation products. His urea and creatinine both rose to three times normal. After 36 hours his left leg became cold with loss of left femoral and all distal pulses. These returned within 6 hours of full haemarisation. By the third day he had developed a fine erythematous macular rash, and a pointing scrotal abscess with inguinal lymphadenopathy was noticed. 10 ml of pus from the abscess showed no growth but a skin swab grew a coliform and a non-toxin-producing strain of Staphylococcus aureus. Once off the ventilator he was found to have a mixed motor and sensory dysphasia with a right-sided hemiplegia. A CT brain scan showed a left temporoparietal infarct in the middle cerebral artery territory. A repeat scan after one month was unchanged. On the 13th day his soles and palms desquamated. During the illness his antistaphyloolysin titres and anti-nucleus titres rose four fold. Normal investigations included serum amylase, viral, mycoplasma, legionella and antistreptolysin-O titres. He went home after 6 weeks.

Although we failed to isolate a Staphylococcus aureus able to produce exotoxin F we feel the clinical picture fulfills the case definition of toxic shock syndrome. The abscess was sterile as he had received 2 days of effective anti-staphyloococal treatment prior to drainage. We believe this is the second case of scrotal infection causing the syndrome in this country. It is not clear why this man should have developed a cerebral infarct. There was no clinical evidence of endocarditis nor blood culture. Suggestions for mechanism of neurological damage have included direct toxic, altering permeability of the blood brain barrier or an immunologically mediated vasculitis. Large vessel spasm in this case might explain the cerebral infarct and the transient loss of leg pulses. The toxic shock syndrome may still have surprising presentations and should be considered in any septic ill patient, not just in menstruating women.

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References


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Creatine kinase BB isoenzyme in rugby football players

Sir: Creatine kinase BB (CK-BB) has been found in high concentrations in the brain. It is found in lesser concentrations in the gut. Normally, concentrations

Table 2
Significance differences found in stroke and control groups between patients with acute and chronic diseases

<table>
<thead>
<tr>
<th></th>
<th>Stroke patients N = 30</th>
<th>Controls N = 30</th>
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<tbody>
<tr>
<td></td>
<td>D</td>
<td>PA</td>
</tr>
<tr>
<td>Acute N = 17</td>
<td>0.99 ± 0.45</td>
<td>0.45 ± 0.39</td>
</tr>
<tr>
<td>Chronic N = 13</td>
<td>1.57 ± 0.78*</td>
<td>0.93 ± 0.6*</td>
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Student t test *p < 0.05 (two tailed)
Psychological distress after stroke.

G Magni and F Schifano

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