SOMATIC SYMPTOMS IN MULTIPLE SCLEROSIS AND MPD

Colin A. Ross, M.D., FRCPC
Eunice Fast, B.A.
Geri Anderson, R.P.N.
Anthony Auty, B.M., B.C.H., FRCPC
Judy Todd, R.N.

Cohn A. Ross, M.D., FRCPC, is an associate professor in the Department of Psychiatry at the University of Manitoba.

Eunice East, B.A., is a medical student. at. the University of Manitoba.

Geri Anderson, R.P.N., is a Dissociative Disorders Nurse Clinician in the Department of Psvchiauy at St. Boniface Hospital, Winnepeg, Manitoba.

Anthony Auty, B.M., B.C.I I., FRCPC, is Director of MS Clinic and an assistant professor in the Department of Medicine (Neurology), University of Manitoba.

Judy Todd, R.N., is a MS Clinic Coordinator in Winnepeg, Manitoba.

For reprints write the Deparuneut of Psvcltiatry, St. Boniface Hospital, 409 Tactic Avenue, Winnipeg, Manitoba R211 2A6, Canada.

This article is based on a paper presented at the Sixth Annual International Conference on Multiple Personality/Dissociative States, Chicago, October 14, 1989.

ABSTRACT

In this report 50 subjects with multiple sclerosis are compared to 50 subjects with multiple personality disorder. The multiple sclerosis patients endorsed an average (1 3.0 *somatic symptoms on structured interview, the multiple personality subjects an average of 14.5. The somatic symptoms characteristic of neurological illness were trouble walking, paralysis, and muscle weakness. Those characteristic of psychiatric illness were genitourinary and gastrointestinal symptoms.*

In a contemporary series of 102 cases of multiple personality disorder (MPD), 60.8% met DSM-III-R criteria for somatization disorder (Ross, Miller, Reagor, Bjornson, Fraser, & Anderson, 1990). Individuals with MPD can be differentiated from other psychiatric diagnostic groups by the frequency with which they experience somatic symptoms (Ross, Heber, Norton, & Anderson, 1989a; Ross, Heber, Norton, & Anderson, 1989b). In MPD patients, somatic symptoms appear to be related to childhood trauma, and, like Schneiderian symptoms, may be "somatic memories" of particular abuse incidents (Kluft, 1987). The psychosomatic symptoms of MPD patients are a recurrent theme in the dissociative literature (Coons, 1988; Putnam, 1989; Ross, 1989).

There *is* a concern expressed in the psychiatric and medical literature that psychosomatic symptoms may he difficult to differentiate from those ofmultiple sclerosis (MS) , especially in the early stages of MS (Caplan & Nadelson, 1988; LaRocca, 1984; Tomsvck& Jenkins, 1987). This is partly due to the fact that MS often strikes women aged 20 to 40. It is of note that MPD patients in clinical series also tend to he women in this age group (Putnam, Groff, Silberman, Barban, & Post, 1986; Ross, Norton, & Woznev, 1989).

This study compares the somatic symptoms experienced by MS patients with those experienced by MPD patients to delineate any differences in somatic syrnptomatology between MS and MPD. The study was motivated by an additional concern which is admittedly quite speculative: since MS involves patchy demyelination of the central nervous system, it is conceivable that it could cause a failure of normal integrative fu nctions and result in dissociative symptoms. If this were the case, MS might provide a biomedical model of dissociation for further study. Dissociative symptoms were also enquired about to explore this possibility.

METHODS

Subjects

We interviewed 50 MS patients and 50 MPD patients using the Dissociative Disorders Interview Schedule (DDIS) (Ross, 1989; Ross, Heber, Norton, Anderson, Anderson, & Barchet, 1989) and the Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986).

The MS subjects were selected from patients attending an MS clinic. To avoid selection bias the first 44 patients over 18 years with clinically definite MS were interviewed. Patients with additional neurological diagnoses, such as stroke and dementia, were excluded from the study. Due to difficulties with recruitment the final six MSsubjectswere selected nonrandomly by review of clinic files. The first 50 MPD patients assessed at our Dissociative Disorders Clinic were inter'iewed. After explanation of the procedure, signed informed consent was solicited from each patient before the interview. There were no refusals in either the MS or MPD groups. Ethical approval had been received from the Faculty Committee on the Use of Human Subjects in Research at the University of Manitoba.

Instruments

The Dissociative Disorders Interview Schedule (DDIS) is a 131-item structured interview which takes 30-45 minutes to administer. It has an overall inter-rater reliability of 0.68, a sensitivity of 90% and a specificity of 100% for the diagnosis of

MPD (Ross, et al., 1989). The inter-rater reliability of the DDIS for the DSM-1II-R diagnosis of somatization disorder is 0.69.

The Dissociative Experiences Scale is a 28-item self--report instrument with good validity and a test-retest reliability of 0.84 (Bernstein & Putnam, 1986).

Data Analysis

Chi square analysis was used when comparing MS and MPD patients on dichotomous variables, and the Mann-Whitney U test when comparing them on continuous variables.

In comparing the MS and MPD groups on the 35 DSM-II1-R symptoms of somatization disorder, the Bonterroni procedure for multiple comparisons was used to avoid Type 1 errors (Grove & Andreasen, 1982). After application of the Ronferroni procedure the significance level for these items was $p < .002$. Symptoms experienced by MS patients that can be attributed to their disease are normally scored negative by DSM-ill-R criteria. However, for the purpose of differentiating between types of symptoms experienced by MS and MPD patients we included symptoms attributed to MS as positive.

RESULTS

Demographic Characteristics of Subjects

Of the 50 MS subjects, 19 were male and 31 were female, with a mean age of 44.9 (S.D. 9.8) years (age range: 32-71). Twenty-nine subjects were married, 13 single, 12 separated or divorced, and 3 widowed. Only 7 subjects were employed.

Six of the MPD patients were ►vale and 44 female which is significandydiflerentfrom MS patients ($X\sim(1) = 7.68$, $p < .006$). MPD patients had a mean age of 30.2 (S.D. 9.2) years, which is significantly different from the MS patients ($U(98) = 2194.0$, $p < .00001$). Nineteen MPD patients were employed, 13 married, 23 single, 13 separated or divorced, and one widowed.

Neurological Status of Multiple* Sclerosis *Patients

In the MS patients, the mean age at onset of MS was 32.7 (S.D. 9.4) years. The mean duration ofillnesswas 12.3 (S.D. 7.7) years. Five of the MS patients did not have a progressive illness at the time of the study. Of the remaining subjects, 24 had a relapsing-progressive pattern and 21 a chronic progressive pattern. In thirty of these subjects the duration of the progressive phase of their illness was over two years in duration.

According to clinical assessment by a neurologist, 30 subjects had involvement of the brain stem, 48 the spinal cord, 24 the cerebellum, 5 the cerebrum, and *22* the optic ner'e. Six of the subjects had involvement of only one area, 20 of two areas, 14 of three areas, 9 of four areas, and one of five. The mean number of areas involved was 2.6 (S.D. 1.0).

No MPD subjects had a diagnosis of MS.

Abuse Histories

Five MS subjects suffered sexual abuse during childhood with a mean duration of 0.8 (S.D. 1.8) years. Two of these also experienced physical abuse along with two additional subjects. The mean duration of physical abuse experienced by the four subjects was 7.0 (S.D. 5.5) years. For MPD subjects, 84% were sexually abused with a mean duration of 10.0 (S.D. 8.6) years and *78%* were physically abused with a mean duration of 13.0 (S.D. 6.9) years. The two groups differed on the percentage of subjects experiencing physical , ($X^2(1) = 52.03$, $p < .0001$) and sexual ($X'(1) = 47.16$, $p < .00001$) abuse. The duration of physical abuse did not differ between the two groups, while the duration of sexual abuse did ($U(40) = 20.5$, $p < .006$) .

Somatic Symptoms

Only one MS subject had a diagnosis of somatization disorder compared with 13 MPD subjects ($V(1) = 10.1$, $p<.002$) . Using I)SM-HI-R criteria, MS patients scored significantly lower than MPD patients ($U(98) = 202.5$, $p < .00001$) on average number of somatic symptoms reported. The MS subjects reported an average 4 3.0 (S.D. 3.8) somatic symptoms, while the MPD subjects reported an average of 14.5 (S.D. 7.5) .

In comparing each somatic symptom, using our analysis ii which symptoms attributed to MS are positive, there is a significant difference in certain groups of symptoms between MS and MPD patients (see Table 1) . After using the Bon ferroni procedure, MS patients experience trouble walking and paralysis or muscle weakness significantly more often. Symptoms experienced more often by MPD patients are abdominal pain, nausea, vo►nit.ing, bloating, intolerance of' foods, pain in the genitals, pain during intercourse, palpitations, chest pain, and amnesia. The remaining 23 symptoms do not difleren tiate the two groups significantly.

Dissociation and Related Symptoms

Previous research has shown that Schneiderian symptoms, ESP experiences, borderline personality disorder criteria, somatic symptoms, and secondary feann'es of MPD are part of a large cluster of symptoms common in patients with abuse histories and dissociative disorders (Ross, 1989; Ross, et al., 1990). MS subjects scored significantly lower on all these categories compared with MPD subjects.

The MPD subjects reported an average of 6.3 (S.D. 2.9) Schneiderian symptoms and the MS patients an average of 1.0 (S.I). 2.1), ($U(98) = 162.0$, $p < .00001$). The MPD subjects reported an average of 5.4 (S.D. 3.7) supernatural/extrasensor-experiences and the MS subjects an average of 1.0(S.D. 1.6), ($U(98) = 281.0$, $p <.00001$). The MPD subjects reported an average of 5.7 (S.D. 2.2) positive borderline personality disorder criteria and the MS subjects an average of 0.9(S.D. 1.5), ($U(98) = 139.5$, $p < .00001$). The MPD subjects reported an average of 9.1 (S.D. 3.6) secondary features of MPD and the MS subjects an average of 0.8 (S.D. 1.4), ($U(98) = 41.0$, $p<.0001$).

The MS subjects scored an average of 6.4 (S.D. 10.3) on the DES, which is in the normal range, compared with 36.9 (S.D. 19.7) for MPD subjects ($U(98) = 174.0$, $p < .00001$) .

DISCUSSION

In comparing MPD and MS patients, our study clearly indicates that MS patients as a group are not dissociative. They score in the normal range on the DES and do not endorse the symptom clusters characteristic of MPD on the DDIS. Dernyelination of the central nervous system does not provide a biomedical model ofdissociation, although individual MS patients may experience dissociative symptoms. The fact that the MPD subjects were younger and more predominantly female does

TABLE 1

Somatic Symptoms in Multiple Sclerosis and Multiple Personality Disorder

Symptom	Multiple Personality Disorder (N=50)	Multiple Sclerosis (N=501	p value
	Number of Subjects Positive		
Abdominal pain	36	6	.00001
Nausea	35	6	.00001
Dizziness	**35**	19	N.S.
Palpitations	34	8	.00001
Amnesia	34	5	.00001
Sexual indifference	34	23	N.S.
Intolerance of foods	26	5	.00001
Vomiting	26	3	.00001
Bloating	26	9	.0006
Back pain	25	22	N.S.
Shortness of breath	25	12	N.S.
Irregular periods	'25	13	N.S.
Painful menstruation	24	8	N.S.
Chest pain	24	S	.001
joint pain	24	17	N.S.
Blurred vision	*23*	*27*	N.S.
Excessive menstrual bleeding	23	9	N.S.
Pain during intercourse	21	4	.0002
Urinary retention	20	27	N.S.
Diarrhea	19	7	N.S.
Pain in extremities	19	16	N.S.
Paralysis or muscle weakness	19	43	.00001
Double vision	18	23	N.S.
Other pain	17	6	N.S.
Pain during urination	15	3	N.S.
Difficulty swallowing	15	17	N.S.
Fainting	15	6	N.S.
Pain in genitals	14	1	.0007
Trouble walking	12	47	.00001
Seizures/convulsions	11	2	N.S.
Vomiting during pregnancy	11	4	N.S.
Loss of voice	10	8	N.S.
Deafness	8	3	N.S.
Blindness	2	12	N.S.
Impotence	1	7	N.S.

* *after application of the Bonferroni procedure the significance level for these items is* $p < .002$

* *the difference between groups on painful menstruation did not reach significance because of missing data for that item*

not call this conclusion into question: if MS provided a biomedical model of dissociation, dissociative symptoms would become more apparent as the disease progressed with age.

MS is the. second disorder ruled out as a biomedical model of dissociation. Temporal lobe epilepsy has also failed to provide a model organic dissociative syndrome (Dcvinsky, Putnam, Graf man, Bromfield, & Theodore, 1989; Loewenstein & Putnam, 1988; Putnam, 1986; Putnam, 1989; Ross, 1989; Ross, et al., 1989).

The somatic svinptomatology of MS patients, although historically often confused with somatization disorder, has a notably different cluster when compared with somatoform findings in MPD patients. Nearly all of the MS patients had at one time experienced trouble walking (94%) and paralysis or muscle weakness (86%). The cluster of symptoms that was elevated significantly in MPD patients consists mainly ofgastrointestinal and genitourinary svmptomatology.

Morrison (1989) found that 55% of 60 patients with primary diagnoses of somatization disorder had childhood sexual abuse histories, and three had MPD. MPD patients are also abuse survivors and have many somatic symptoms. We suspect that assessment of Morrison' s subjects with the DES and DDIS might have yielded more dissociative diagnoses and symptomatology. A recent review of current theories of somatization disorder (Kellner, 1990) did not mention childhood abuse, however. The relationship between somatization and sexual abuse seems not to have been accepted by many clinicians.

A limitation of the current study is that MPD patients may not be representative of most individuals with numerous psychosomatic symptoms. It would be of interest to determine the differences in symptom patterns between women with primary diagnoses of somatization disorder who have been sexually abused as children and those who have not, using the DES and DDIS. Such a study might further support the relationship between childhood sexual abuse and somatic complaints in the genitourinary and gastrointestinal systems.

As Ruegg (1990) has pointed out, the relationship between somatic symptoms and childhood sexual abuse raises questions about the transmission of somatization disorder from one generation to the next. In some families females tend to have somatization disorder and males antisocial personality disorder. Perhaps what is really "transmitted" in these families is child abuse. Abused males develop antisocial personality and assertively mate with abused females, who have developed somatization disorder, and vice versa. The children of these unions are at risk for child abuse, thus perpetuating the cycle. Such a pattern of transmission would apply to certain somatic symptoms but not to those characteristic of MS, which are caused by demyelination of the nervous system. ■

REFERENCES

Bernstein, E.M., & Putnam, F.W. (1986). Development, reliability, and validity of a dissociation scale. primal *oJA ousarid,Y lentalDisease,* 179, 727-735.

Caplan, L.R., & Nadelson, T. (1980). Multiple sclerosis and hysteria, lessons learned from their association. *Journal ofthe Arnericean Medical' Association,* 243, 2418-2421.

Coons, P.M. (1988). Psvchophysiologic investigation of multiple personality disorder. *DISSOCIATION* 1 (1). 47-53.

Dcvinsky, O., Putnam, F.W., Grafman,J., Bromfield, L, & Theodore, W. H. (1989). Dissociative states and epilepsy. *Psemonloi',* 39, 835-840.

Grove, W. M., & Andreasen, N.C. (1982). Sirraultancous tests of many hypotheses in exploratory research. *Journal of Nervous and Mental Disease,* 170. 3-8.

Kellner, R. (1990). Somatization, Theories and research. *Journal of* A'eroous *and Mental Disease,* 178, 150-160.

KIuft$_i$ **R,P.** (1087).First-rank symptoms as a diagnostic clue to multiple personality disorder. *American Journal of* Psychiatry, 144, 293-298.

LaRocca, N.C. (1984). Psyc:hosncial factors in multiple sclerosis and the role of stress. *Annals of/he N$_{ti}$ York Academy ofSciences,* 436, 435-442.

Loewenstein, R.J., & Putnam. F.W. (1988). A comparison study of dissociative symptoms in patients with complex partial seizures, multiple personality disorder, and posttraumatic stress disorder. *DISSOCIATION,* 1 (3). 3-12.

Morrison, J. (1989). Childhood sexual histories of women with somatization disorder. *American Journal of Psychiatry,* 146, 239-241.

Putnam, F.W. (1986). The scientific study of multiple personality disorder. In J.M. Quen (Ed.), *Split Minds/Split Brains* (pp. 109-125). New York: New York University Press.

Putnam, F.W. (1989). *Diagnosis and 'Ti eatrnent ofMultiple Personality Disorder.* New York: Guilford.

Ross, C.A. (1989) . *MultiplePersonality Disarder:•Diagnosis, ClinicalFeatures,* and *Treatment.* New York: John Wiley & Sons.

Ross, C.A., Norton, G.R., & Wozney, K. (1989). Multiple personality disorder: An analysis of 236 cases. *Canadian Journal of Psychiatry,* 34, 413-418.

Ross, C.A., I-leber. S., Norton, G.R., & Anderson, G. (1989a) . Somatic symptoms in multiple personality disorder. *Psychosomatics,* 30, 154-160.

Ross, C:A., Heber, S., Norton, C.R., & Anderson, G. (1989b). Differences between multiple personality and other diagnostic groups on structured itrterview_,*Journal oJN'rcous and Mental* Disease, 1 79, 487-491.

Ross, C.A., Heber, S., Norton, G.R., Anderson, G., Anderson, B., & Barchet, P. (1989). The dissociative disorders interview schedule: a structured interview. *DISSOCIATION,* 2(3),169-189.

Ross, C.A., Heber, S., Norton, G.R., Anderson, G., Anderson, B., del Campo, M., & Pillay, N. (1989). Differentiating multiple personality disorder and complex partial seizures. Gememl Hospital Psychiatry, 11, 54-58.

Ross, C.A., Miller, S.D., Reagor, P., Bjornson, I,., Fraser, G.A., & Anderson, G. (1990). Structured inter'iew data on 102 cases of multiple personality disorder from tour centers. *American* journal *of Psyrhialry*, 147, 596-601.

Ruegg, R.G. (1990). Etiologvofsomatiruion disorder. Amencran *Journal o[Psychiratrv*, 147, 126.

Toni syck, R.R., & Jenkins, P. I.. (1987). Psvciriatric aspects of multiple sclerosis. *General HospitalP.sychia1rs*, 9, 294-301.