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The psychiatric symptomatology of multiple sclerosis: a review of literature

Multiple sclerosis is the most often demyelinating disease and also one of the most frequent neurological disorders affecting mostly young people in the third or fourth decades of their lives. Three types of clinical course are typical of the disease: 1) relapsing-remitting multiple sclerosis with relapses throughout the duration of the disease, 2) secondary progressive multiple sclerosis with the beginning typical of relapsing-remitting course (usually lasting about 15 years) unavoidably followed by a progressive phase and 3) primary progressive multiple sclerosis with steadily worsening the condition from the beginning. Multiple sclerosis is mainly perceived as a disease of motor and sensory systems leading gradually to physical disability. But the disease is often accompanied by emotional changes (1, 2, 6, 8, 9, 11).

One of the first authors who paid attention to psychological functioning of people with multiple sclerosis was Jean Marie Charcot, who first noted , about 130 years ago, in 1874, that emotional and intellectual changes accompany multiple sclerosis (8, 10, 18). At the beginning of the 20th century some authors even thought emotional disorders in multiple sclerosis to be the most important symptoms of the disease (7). In those days the most frequent mood disorder associated with multiple sclerosis was euphoria. Brown and Davies considered its frequency in multiple sclerosis patients to be about 71%, but the limitation of their study was a small group of patients (7, 8). Also other authors such as Cotrell and Wilson reported, on the basis of their study with 100 MS patients, that the frequency of euphoria was 63%, whereas only 10% of the patients were depressive (7, 8). Nowadays euphoria seems to be far more rare than it was thought previously. According to Kahana in cerebral MS its frequency is estimated at about 5% (8).

In the seventies of the 20th century some authors paid attention to depressive symptoms in multiple sclerosis. One of the first, who highlighted that was Surridge (11). Presently the frequency of depressive symptoms in multiple sclerosis is estimated to be from 25–54% (2, 3, 6, 7, 8, 9, 10, 11). In detecting depressive symptoms some difficulties may occur because certain depressive symptoms, such as chronic fatigue, memory loss, concentration problems may overlap with symptoms of MS.

In some studies correlation between the severity of depression and degree of physical disability was investigated. Although widely investigated, this correlation is still unclear. In some studies a positive correlation was found (4,8), whereas in other studies such correlation was not confirmed. (8). According to Stenager, there is a tendency for depression to increase with worsening disability up to an EDSS score of 5–6 but patients with greater disability (score 7–9) in spite of severe brain damage show lower level of depression compared to mildly disabled patients (quot. after 8). Also most studies confirm that depressive episodes coincide with neurological exacerbations (4, 9, 18), but there are still some studies which have not found this positive correlation. Joffe`s study, in which 100 multiple sclerosis patients were investigated, showed that there was no direct correlation

between functional disability measured by Kurtzke scores and mood disorders (9). These results were also confirmed by Rabins (quot. after 8).

It is also interesting that psychiatric disorders, among which depression is very common, can be the first symptoms of multiple sclerosis. It has been estimated that up to 16% of MS patients can present different psychiatric disorders before the diagnosis of MS (7, 8, 10, 12). In 1995 Pine investigated 2,720 consecutive admissions to psychiatric units. Although his results showed that MS patients accounted for a small part of all psychiatric admissions, these patients could exhibit mania or manic psychosis more often than the rest of the inpatient population (5, 6, 7, 12).

PATHOGENESIS OF DEPRESSION IN MS

It is still unclear whether mood disorders in multiple sclerosis can be psychological response to functional loss and physical disability or can be just part of the disease. Some studies confirm endogenous explanation of the disease, other support reactive basis of these disorders. It is known that MS patients present more affective disorders than patients with other neurological deficits and comparable degree of disability. However, Surridge has not detected any significant difference in severity of depression comparing 108 multiple sclerosis patients with patients with muscular dystrophy. Also multiple sclerosis patients with demyelinating lesions located mainly in the spinal cord suffer fewer depressive disorders despite their greater disability (quot. after 8, 10). A comparison of 64 patients with multiple sclerosis and 23 patients with spinal cord injury revealed that less emotional disturbances were present in the spinal cord injury group, who were more functionally disabled. This may suggest that depression in MS is not a direct reaction to functional loss. It has also been proved that psychological functioning in MS is connected with the course of the disease. A comparison of psychological functioning of patients with PP-MS and SP-MS was made by Vleugels (18). According to his study primary progressive patients, despite their greater disability measured with EDSS, longer disease duration and older age had better psychological functioning compared to secondary progressive patients. An attempt to explain these results was made with the use of magnetic resonance imaging. It turned out, on the basis of magnetic resonance images, that in primary progressive MS there tends to be less cerebral lesions and there are fewer new lesions over time. This suggests that primary progressive MS compared to secondary progressive MS is more a disease of the spinal cord than of the brain (15). This also confirms the hypothesis that that depression in MS is not only reactive.

Some authors also inform about strong association of MS and bipolar affective disorders. While the prevalence of affective disorders in general population is about 1%, its occurrence in Joffe's study was 13% (9, 12). According to other studies this prevalence was about 3% (quot. after 8, 10, 18).

Investigations of the last decade are attempts to find the explanation of mood disorders, emotional changes and deterioration in psychological functioning of MS patients. Studies on mood disorders in MS in the last decade are focused on looking for relationship between lesions site in central nervous system and the presence of depressive symptoms on the basis of MRI and SPECT (7, 11). In most of these studies lesions located mainly in temporal lobes coexisted with depressive MS symptoms (7). Honer compared MS patients with depressive disorders and MS controls matched in age and illness severity without mood disorders. It turned out that MS group with mood disorders had a greater number of lesions in the temporal lobes (7). Pujol, on the other hand, revealed that demyelinating plaques in the white matter of left hemisphere, near insula, in the left arcuate fasciculus region are mainly responsible for depressive symptoms (quot. after 8, 10).

Some drugs used in the therapy of MS are also thought to be responsible for mood disorders. There is some evidence that depression may be a side-effect of steroids treatment. In 1993 Alam proved that

patients treated with methylprednisolone (500 mg per day) can suffer from depression of mild intensity (1). Another drug used in MS treatment was interferon beta introduced to MS therapy in the nineties of the 20th century. Results of studies on the influence of interferon beta on mood disorders are not unequivocal. Some authors inform about higher risk of depression in patients treated with interferon beta compared to placebo group. But a European mulitcentre trial on interferon beta treatment in secondary progressive MS revealed that depression was present more often in patients not treated with interferon-beta (quot. after 8). Other studies checking the influence of interferon on the level of depression measured with Beck Depression Inventory have not confirmed this influence, either (1).

Genetic basis of depression in multiple sclerosis was also taken into consideration. The study made by Minden in 1989 on 50 patients with MS revealed that 54% of them were depressive in certain periods of their lives, and 44% of these patients had first degree relatives with depressive symptoms. According to the authors of the study such results may suggest the genetic basis of depression in MS. On the contrary, in 1996 Sadovnick presented results of his research on 221 patients with MS. The results confirmed very high risk of depression in patients with MS, but the data for their first degree relatives have not supported a genetic basis for depression (13).

It is known that depression is connected with higher risk of suicide. Since depressive symptoms in multiple sclerosis are very common, this risk is also high in MS patients. In 1991 Sadovnick, in his research on the group of 3,126 patients, revealed that the proportion of suicides among MS patients was 7.5 times higher than for the age-matched general population (13). Another study, which involved 5,525 MS patients, revealed that the risk of suicide was twice as high as that estimated for general population. The probability of suicide was the highest in the group of men and in men with the first relapse before they were 30 years old (13). On the other hand, there are also studies which have not confirmed the higher risk of suicide in multiple sclerosis patients (8, 10).

Other reported in the literature psychiatric disorders accompanying MS, apart from depression and euphoria, are labile mood, pathological crying and laughing, irritability, nervousness and memory deficits (2, 3, 4, 5, 6). According to Feinstein's study the prevalence of pathological crying and laughing is about 10% in MS. These disorders are most often observed in patients with greater physical disability (EDSS>6.5), longer disease duration (>10 years) and with secondary progressive clinical course of the disease (8). The prevalence of concentration problems in MS is estimated at about 26%, sleep disturbances, anxiety and irritability have prevalence by about 20%. In Arias' study emotional lability was present in 30% of patients. It was associated with older age, inability to work and greater disability on EDSS (2).

TREATEMENT OF DEPRESSION IN MS

Not very much studies have been made on the efficiency of depression treatment in MS. Several clinical reports suggested that tricyclic antidepressants and cognitive-behavioural therapy may be effective means of managing depressive symptoms in multiple sclerosis (12, 13, 14, 17). The effectiveness of desimipramine in one of the studies was evaluated as high, but the limitation of this treatment were side-effects typical of tricyclic antidepressants (quot. after 8). Research made by Scott in 1995 on 10 depressive patients with MS showed that sertraline in a dose of 100 mg per day is not only effective but also well tolerated in treatment of major depression. None of the patients involved into the study with sertraline experienced side-effects. Studies made by Scott on the effectiveness of different antidepressive drugs in MS showed high effectiveness of these drugs in 51 among 52 patients involved into the study. At the same time withdrawal of this treatment was connected with high risk of depression relapse (8). Tricyclic antidepressants and selective serotonin reuptake inhibitors (SSRI) were also used in the treatment of pathological laughing and crying (8).

CONCLUSIONS

Although neuropsychological aspects of multiple sclerosis are a subject of interest in the last years, in everyday clinical practice these aspects of the disease remain unrecognized or ignored. Scales commonly used for measuring disability in multiple sclerosis such as expanded disability status scale introduced by Kurtzke in 1983 (EDSS) do not take emotional disorders and cognitive deterioration of these patients into account; they focus on physical disability mainly (8,10). Scales used for assessment of MS patients , created in the last years measure also their psychological functioning . An example can be Multiple Sclerosis Functional Composite Measure (MSFC). As for depression treatment, a great progress has been made in introducing new groups of antidepressive drugs, so that nowadays depressive symptoms in different somatic disorders can and should be successfully treated with minimal side-effects. The aim of this article was to stress the need to place more attention on clinical detection and treatment of psychopathological disorders in multiple sclerosis patients. Early identification and treatment of depression may decrease the negative influence of bad psychological functioning on the course of the disease and reduce depression related disability. Since pathogenesis of mood disorders has not been explained yet, it should be the subject of future research.

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SUMMARY

Multiple sclerosis is the most often demyelinating disease of central nervous system and also one of the main causes of physical disability in young people. In everyday clinical practice the disease is mainly perceived as affecting motor and sensory systems and leading unavoidably to physical disability. Psychological aspects of multiple sclerosis are usually unrecognized or ignored. Investigations of the last decade made a subject of interest also neuropsychological aspects of multiple sclerosis. This article is a review of past and current opinions on mood disorders in patients affected by multiple sclerosis, it also presents current opinions on pathogenesis and treatment of emotional problems in multiple sclerosis. The aim of this article was to highlight the need of focusing more attention on early clinical detection and treatment of emotional disorders in multiple sclerosis.

Zaburzenia psychiatryczne w przebiegu stwardnienia rozsianego: przegląd literatury

Stwardnienie rozsiane jest najczęstszym schorzeniem demielinizacyjnym, a jednocześnie jedną z najczęstszych przyczyn niesprawności wśród ludzi młodych. W codziennej praktyce klinicznej schorzenie jest głównie postrzegane jako powodujące upośledzenie sprawności układu ruchowego i czuciowego oraz prowadzące do znacznego stopnia niepełnosprawności. Zaburzenia w funkcjonowaniu psychicznym osób ze stwardnieniem rozsianym są problemem często pomijanym lub też odsuwanym na plan dalszy podczas terapii. Dopiero ostatnie lata przyniosły większe zainteresowanie neuropsychologicznymi aspektami stwardnienia rozsianego. Praca prezentuje przegląd piśmiennictwa na temat zaburzeń nastroju w przebiegu SM, prezentuje także aktualne poglądy na temat patogenezy i leczenia tych objawów. Celem artykułu było zwrócenie większej uwagi na wczesne wykrywanie i leczenie zaburzeń nastroju w przebiegu SM w codziennej praktyce klinicznej.