Psychiatric Comorbidities of Multiple Sclerosis

Essay

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By

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List of Abbreviations

BVMT-R	Brief Visiospatial Memory test-Revised
CBT	Cognetive & Behavioural Therapy
CCSVI	Chronic CerebroSpinal Venous Insufficiency
CDC	Central for Disease Control
CHAMPS	Controlled High-Risk Subjects Avonex Multiple Sclerosis Prevention Study
ChAT	Choline Acetyltransferase
CIS	Clinically Isolated Syndrome
CSF	CerebroSpinal Fluid
ECT	Electroconvulsive therapy
HLA	Human Leukocytic Antigen
HPA	HypothalamicPituitary Adrenal Axis
IEED	Involantary Emotional Exepression disorder
IFNb	Interferon beta
IL	Inter-Leukins
MACFIMS	Minimal Assessment of Cognitive Dysfunction in Multiple Sclerosis
MAO	Monoamine Oxidase
MHC	Major Histo-Compatability Complex
MS	Multiple Sclerosis
MRI	Magnetic Resonance Imaging
PBA	Pseudobulbar Affect

PGs	Prostaglandins
PPMS	Primary Progressive Multiple Sclerosis
QOL	Quality of Life
RIMAs	Reversible Inhibitors of MAO-A
RRMS	Relapsing Remetting Multiple Sclerosis
RT	Relaxation training
SET	Supportive Expressive Therapy
SNRIs	Seretonin Nor-adrenaline re-uptake inhibitors
SPMS	Secondary Progressive Multiple Sclerosis
SSRI	Selective serotonin re-uptake inhibitors
TCAs	Tricyclic Antidepressants
EDSS	Expanded Disability Status Scale
EPV	Epstein_Barr virus
CFS	Chronic Fatigue Syndrome

Introduction

Multiple sclerosis (MS) is a demyelinating, inflammatory, autoimmune, neurodegenerative disease which attacks individuals between 20 and 40 years old, mainly female (3:1) and Caucasians. The course is extremely variable, but most patients initially experience relapses with complete or near complete recovery interspersed with periods of clinical remission. Although a minority of patients have only minimal symptoms, most become disabled in time as a result of incomplete recovery from relapses or conversion to a progressive phase of the disease. The clinical presentation is variable with optic neuritis prevailing, besides motor and sensory manifestations ***(Gonzalez-Rosa et al., 2006).***

Multiple sclerosis may be related to several psychiatric disorders which disturb mainly mood, behavior and personality. Among those disorders, depression is the most frequently related Psychiatric disorders. Symptoms are commonly observed during disease evolution but they are unusual as first symptoms and we estimate their occurrence at 1% of cases approximately, however in many cases, MS is wrongly diagnosed as pure psychiatric disorder ***(Feinstein, 2007).***

Diaz Olavarrieta and Coworkers (1999), in their study revealed that depression attacks 79% of studied MS patients. Of these patients 40% showed agitation during disease evolution, 37% showed anxiety, 35% irritability, 20% apathy, 13% euphoria, 13% lack of inhibition and 10% some kind of hallucination.

Anxiety was also frequently reported in MS. It was shown that the presence of such psychiatric comorbidities has a great impact in general health status and quality of life of MS patients ***(Fruehwald et al., 2001)***.

Owing to the widespread CNS involvement in MS, damage to brain regions involved in mood regulation is a promising candidate for biological correlates of MS-associated depression. Some studies using magnetic resonance imaging (MRI) found that subtle white and gray matter abnormalities in frontal and temporal regions are linked to depression in MS ***(Feinstein et al., 2010).***

Besides, early studies had suggested that depression may be induced by disease-modifying drugs such as interferon beta (IFNb). The occurrence of depression after IFNb therapy in MS treatment was later found to be better explained by a previous history of depression. Therefore, biological aspects of the

disease itself may at least in part be responsible for the high prevalence of depression in MS ***(Feinstein et al., 2002).***

Multiple sclerosis affects many spheres of functioning, reduces physical functions, leads to disability, and is likely to provoke disruptions in education, employment, sexual and family functioning, friendships and daily living activities ***(Thomas et al., 2007)***.

As the disease develops and disability increases, it can have a substantial impact on the individual's sense of self, which implies that patients have constantly to re-define their own self-image to overcome the limitations imposed by MS ***(LaRocca et al., 1993).***

Disease progression may also lead to perceived lack of social support, isolation and social withdrawal, which further contributes to the "profound impact of MS on the patients' social roles and their relatives' well-being" observed by Hakim et al ***(Hakim et al., 2000).***

Moreover, feelings of uncertainty about daily health and loss of self-esteem, due, for instance, to the possibility of an upcoming new relapse in relapsing-remitting forms (RRMS) or to disagreeable side effects from medications, greatly disturb the quality of life ***(Thomas, 2007).***

There is a small body of controlled studies indicating that depression in people with MS responds well to two treatments: psychotherapy that emphasizes the development of active coping skills (such as CBT) and antidepressant medication ***(Siegert and Abernethy, 2005).***

Aim of the Work

The aim of this work is:

1- To highlight MS as a disorder, its magnitude, pathogenesis and the most frequent psychiatric comorbidities of MS.

2- To explain whether the psychiatric comorbidities are a response to MS diagnosis or its medication, highlighting red flag signs for the early detection of the psychiatric manifestations of MS.

3- To evaluate the prognosis of MS in relation to psychiatric manifestations and its impact on the quality of life.

4- To describe a treatment protocol for different psychiatric manifestations of MS.

Chapter (1)

Pathology of Multiple Sclerosis

• Definition of Multiple Sclerosis:

Multiple sclerosis (abbreviated MS, also known as disseminated sclerosis or encephalomyelitis disseminata) is a disease in which the fatty myelin sheaths around the axons of the brain and spinal cord are damaged, leading to demyelination and scarring as well as a broad spectrum of signs and symptoms. Disease onset usually occurs in young adults, and it is more common in females ***(Compston and Coles, 2008)***.

• Epidemiology of Multipie Sclerois:

Multiple sclerosis (MS) is one of the most common diseases of the central nervous system (brain and spinal cord). In Egypt, the prevalence of MS was found to be 1.41% or 14.1 per 1000 other neurological diseases in a recent Egyptian meta-analysis among Egyptian population in different centers in Cairo, Alexandria and Upper Egypt ***(Hashem et al., 2010).***

The prevalence in Egypt showed a great discrepancy. In a study on hospital patients registry in 2002, the prevalence rate of MS among Egyptian population in different centers was estimated to be about 25/100.000, where in Cairo only, it was found 35/ 100.000, and in Upper Egypt it was low 1.2/100 000 ***(Hashem et al., 2010).***

Previous studies in Egypt reported that the prevalence of Multiple sclerosis in Cairo among other neurological disorders was estimated to be about 3.7% ***(Moustafa, 1954),*** where in Alexandria it was 0.5% ***(El-Garem, 1964; Kandil et al., 2006)***, reported that multiple sclerosis patients percentage admitted to Assuit University hospital during one year was 0.7% among other neurological patients.

Worldwide, approximately 2.1 million people are affected by MS. The disease is seen in all parts of the world and in all races, but rates vary *widely* ***(National Multiple Sclerosis Society, 2010).***

Based on the US Census Bureau population statistics in 1996of 264,775,000 people, the prevalence of MS in the US was58.3/100,000 people (64.2% female) and the incidence was 3.2/100,000 people. Currently, 10,000new cases of MS are diagnosed each year in the US ***(Grima et al., 2000)***.