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EFFECTS OF MULTIPLE SCLEROSIS

Kourkouta Lambrini[1], Tsaloglidou Areti[*], Iliadis Christos, Monios Alexandros[2], Koukourikos Konstantinos

[1]Nursing Department, Alexandrion Technological Educational Institute of Thessaloniki, Macedonia, Greece
[2]Biologist, 7th High School of Athens, Greece

ABSTRACT

Introduction: Multiple sclerosis (MS), also known as disseminated sclerosis or encephalomyelitis disseminata, is an inflammatory disease in which the insulating covers of nerve cells in the brain and spinal cord are damaged. This damage disrupts the ability of parts of the nervous system to communicate, resulting in a wide range of signs and symptoms, including physical, spiritual and sometimes psychiatric problems.

Aim: The aim of this retrospective study is to identify the general profile of multiple sclerosis. It also refers to the appearance of the disease in children and its consequences on their health.

Method: A review of the Greek and international literature on the subject was performed through the electronic databases Medline, Google Scholar, Scopus and the Association of Greek Academic Libraries Link (Heal-Link), using as key words the following terms: multiple sclerosis (MS), symptoms, effects.

Results: Patients with MS face a host of daily challenges that are directly or indirectly associated with the disease and they are extended to all areas of personal and social life. The emotional stress due to the disease may be also more painful than the physical consequences. The way in which the family is facing the challenge has a big impact not only on the health, but also on the adaptation of the patient to the disease, especially when the patient is a child.

Conclusion: MS therefore, is a disease that affects the whole family as well as the professionals and it can cause feelings of unhappiness inside the patient's family. Children also often feel isolated, as they believe that nobody gives attention to their needs. They should be informed about their disease in a way appropriate for their age.

Key-words: multiple sclerosis, symptoms, effects

INTRODUCTION

Multiple sclerosis or MS is a chronic neurologic, demyelinating disease that affects the central nervous system (CNS). Multiple sclerosis can cause a variety of symptoms such as changes to touch, vision problems, muscle atrophy, depression, orientation and speech problems, fatigue, cognitive impairment, problems of balance and pain. Multiple sclerosis can cause disabilities in very serious cases[1].

Multiple sclerosis affects neurons, brain cells and spinal cord, which send information, create thought and perception and allow the brain to control the body. Body nerves are surrounded by a thin shell consisting of myelin, a substance that helps the protection of the nerves and the transmission of nerve impulses[2]. Multiple sclerosis causes gradual destruction of myelin (demyelination). When the myelin is damaged, the neurons cannot effectively manipulate their electrical signals. The name "multiple sclerosis" refers to the multiple scars (hardening) on myelin[3].

Corresponding author:

Email: aretitsa2010@hotmail.com

AIM

The aim of this retrospective study is to identify the general profile of multiple sclerosis. It also refers to the appearance of the disease in children and its consequences on their health. Furthermore, the importance of psychological support to children suffering from multiple sclerosis is highlighted.

METHODOLOGY

The material of the study consisted of recent articles on the topic. The literature review was

performed on valid databases such as Medline, Google Scholar, Scopus and the Association of Greek Academic Libraries Link (HEAL-Link), using as key words: multiple sclerosis (MS), symptoms, effects. Criterion exclusion of the articles was the language apart from Greek and English.

MULTIPLE SCLEROSIS IN GENERAL

Multiple sclerosis is caused by the attack of the immune system of the patient in the central nervous system and thus the disease is characterized as autoimmune. Although it is known which part is affected by the multiple sclerosis, the exact cause of the disease remains unknown[4].

Multiple sclerosis generally affects adults aged 20 to 40 and usually affects women with a rate of 3: 2. It affects approximately 2.5 million people worldwide. In Greece 8000 patients approximately suffer from the disease[5]. The race seems to play an important role in the disease prevalence. Greater frequency is found in white race in relation to the black and yellow race [6]. The family history also seems to have an important role in the incidence. The average risk in the relatives of the first, second and third degree is estimated at 15% and it is reduced by the brothers to children, aunts, uncles, and cousins [7].

Multiple sclerosis can appear in many forms. Some of the new symptoms are apparent in separate ways or grow slowly. Among the symptoms, a number of the episodes may completely be subsided, but some neurological problems may also remain permanently. Until now there is no any cure for multiple sclerosis, but there are many treatments that delay the onset of the impulse conduction and the progress of the existing disability [8].

Patients with MS exhibit disturbances in cognition, mobility, vision, mood swings, immune competence and generally at all the levels of functioning in their daily lives, with a direct impact on their personal, professional and social life [9].

Most of the people with MS are informed about the diagnosis of the disease at a stage of their adulthood in which they are seriously interested about the issue of family planning. The diagnosis of the disease raises multiple questions about its course, prognosis, and the possible influence on procreation. All these issues often create insecurity and fear as there are many unanswered questions[10].

The prognosis of the disease depends on several factors: the type of the disease, gender, age, race, initial symptoms and the degree of disability that the person experiences [1,11]. The life expectancy of patients with multiple sclerosis is almost the same as the healthy general population. This is mainly due to the improved methods that combat disability, such as physiotherapy and speech therapy, as well as to the successful treatment of the frequent complications of the disability, such as pneumonia and urinary tract infections [11,12]. Nevertheless, half of the deaths of patients with multiple sclerosis are directly due to the complications of the disease, and 15% of them are due to suicides [13]. As much earlier in the young age starts the appearance of multiple sclerosis, the more delayed the progression of the disease is. When the diagnosis refers to patients older than 50 years, they are likely to have a chronic progressive course of the disease, with more rapid progression of disability. Patients who are diagnosed before the age of 35 have a better prognosis. Women have also a better prognosis than men [1, 12].

Generally, there are some relatively reliable criteria for a broad assessment of prognosis of the disease. Well prognostic points considered to be the following: when there is a slight disability 5 years after onset of the disease, when it begins over the age of 35 years, when only one symptom is developed during the first year and when there is a complete remission of the symptoms after the first acute episode [13]. Conversely, when the condition is displayed with many symptoms such as cerebellar or pyramidal points, ataxia and/or tremor, the process is more difficult. Extensive demyelination in the strain is accompanied by a worse prognosis [14].

MULTIPLE SCLEROSIS IN CHILDREN

Multiple sclerosis may be developed during childhood, even among children under the age of 10 years, and the initial diagnosis can be difficult. A first demyelinating appearance in children may be an episode of acute monophasic disseminated encephalomyelitis or the first episode of a macrophage activation syndrome, vasculitis that affects the central nervous system [15].

The risk of multiple sclerosis is lower if: the child is under 10 years of age, the onset is associated with severely altered consciousness, the presentation of the disease is polysymptomatic. The MS in children has probably a slightly better result than multiple sclerosis in adults. Initial treatment is mainly based on methylprednisolone, and there is little information on the effects of interferon beta therapy in children with multiple sclerosis [1,16].

Subjective and transitory symptoms in children can be ignored or incompletely investigated. Measuring loss of vision or somatosensory deficits in young children can be difficult. Concentration problems or fatigue may be attributed to attention deficit disorder or to nonorganic causes [15]. These factors contribute to a potential bias of mild cases in pediatric MS and may also delay the recognition of MS until adolescence or adulthood [17]. From the literature it is known that there is a connection between frequency of MS and passive smoking incidence, especially in children. MS is not necessary the outcome of passive smoking, but children with parents who smoke are more likely to become ill. Major role in the level of risk plays the duration of the exposure. The chicken pox is also another risk factor for MS in childhood [1, 18].

Children often feel isolated, and they believe that nobody gives attention to their needs. They have to learn about their disease in a manner appropriate for their age. They feel very bad if they understand that they are isolated and that there is a family secret. Some children feel guilty because they believe that they are responsible for the disease, or they believe that they are an additional unwanted weight for their family. This can lead to depression or behavioral disorders at school or at home [19].

Early diagnosis of physical, psychological and social problems of the child and their treatment by the care team improves his/her quality of life. The education of the patient and patient's family regarding the care and the required attitude helps the child to keep his/her self-esteem. It also helps the patient to draw roles, to be more strong-minded and more optimistic for the future [20].

PROBLEMS AND TREATMENT IN MULTIPLE SCLEROSIS

Patients with MS face a host of daily challenges that are directly or indirectly associated with the disease and they are extended to all areas of personal and social life. The high stress of these challenges and the high degree of dependence on 'significant others' (eg doctors), or the fate that usually is obvious to these patients lead to maladaptive situations that are manifested by a deterioration of their physical, mental and social health [21].

The progression of the disease varies from patient to patient. In some cases there is a constant deterioration process and in others there is a severe neurological disability which is manifested by episodes. When the episode subsides, the patient seems almost normal [11]. The treatment of the disease requires the cooperation of a group of special scientists, who are facing problems such as spasticity. This is a serious problem in the later stages and as a result a difficulty associated to walking, activity and self-care is created. Another problem is the inability [1]. 70% of the patients show weakness, that appears earlier in the legs and the attack is more serious in relation to the upper ends. The treatment goals are the independent and safe walking with minimum energy consumption, the improvement of strength, rythm and walking pattern. The ultimate aim of the therapists for the people with motor deficits is to obtain the highest possible level of autonomy and to gain the best possible quality of life [12].

The emotional stress due to the disease may be also more painful than the physical consequences. The way in which the family is facing the challenge has a big impact not only on the health, but also on the adaptation of the patient to the disease, especially when the patient is a child. Some children show extreme stress, anxiety about their health and behavioral problems [22].

Parents feel guilty about what they can offer to their children and anxiety and fear about the demands of their children. They are vulnerable to their criticism and they feel fear that they lose the characterization "good parent." Some parents adopt a protective attitude and they hesitate to speak to their children about the diagnosis because they are concerned that the children will be afraid of the disease. They delay to inform them until they are in a stage where they can understand it by themselves [17,18]. Parents also get angry when the child's companion leaves them alone. The role of the husband may end one day, but the parent is always there for the child [21]. Parents experience a painful experience characterized by feelings of anxiety, protection and failure to provide assistance. They have strong feelings of maternal and paternal protectiveness. They are also often full of frustration, bitterness and guilt [19,22]. The reconciliation therefore with the disease for the patient and his/her family is necessary in order to be able to face the new reality and to ensure the quality of their lives.

CONCLUSIONS

MS can cause feelings of unhappiness inside the patient's family. The partners often find difficult to cope with the new situation and often have more anxiety than the patient himself. This is due to the dilemma they face; it is not easy for them to decide to leave or to stay with the patient.

Children also often feel isolated, as they believe that nobody gives attention to their needs. They should be informed about their disease in a way appropriate for their age. Some children feel guilty because they believe that they are responsible for their disease, or that they are an additional unwanted weight for their families. As a result, this fact leads to depression or behavioral disorders at school or at home.

MS therefore, is a disease that affects the whole family as well as the professionals and as such has to be faced. It creates new psychodynamic that may lead to healthier and more honest relations between the members of the care team and the family.

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