71 - ANALYSIS OF THE FUNCTIONAL INCAPACITIES IN THE MULTIPLE SCLEROSIS: REVIEW OF LITERATURE.

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Introduction

Demyelinating illnesses are common in the human species They cause conditions where the loss of myelin affects the SNC in a reasonably selective way, generally because an inflammatory process of perivascular predominance. Conceptually they are different of the demyelinating illnesses, in which an alteration of the formation from the myelin occurs [1]. The Multiple Sclerosis is a demyelinating illness that attack the central nervous system and that serves of archetype and model for all the other illnesses of the heterogeneous group of the central acquired demyelinating lesions that has as a main characteristic the damage of the formed myelin and where the injuries are developed in association with perivascular inflammation [2].

Although innumerable studies, in the heart of 20 th century, the multiple sclerosis remains a disease without accurate nosológical limits, without a defined etiology or a biological marker that identify it and with no therapeutical ways that can prevent or cure it.

The diagnosis of multiple sclerosis still remains based on data of clinical evaluation and the progress curve of the signals and neurological symptoms. Each diagnosis demands, a differential with all the other diseases of the central nervous system that attacks preferably the white substance, as vascular illnesses, tumors, degenerative and metabolic diseases infections [3].The aim of the study is to describe the valid and recognized scales of evaluation of functional incapacity for the study of Multiple Sclerosis.

Methodology

The present study is based on the review of specific literature on the subject.

Medical Report

Epidemiologiical studies indicate the importance of geographical envionmental and genetic factors. The disease has a well defined geographic distribution, being its bigger prevalence in the north latitude areas. In any latitude, black people fewer run risks than white people to develop the illness and women are more affected than men. The beginning of the illness usually occurs between the second and fourth decade of life being considered the main cause of neurological incapacity in young adults and middle-aged people, who are frequently in the threshold of decisions, or in the height of the professional productivity, and are faced with the possibility of a serious incapacity [4]. The job contributes directly for the identity of the young adult, providing him not only with financial benefits but also with status and quality of life. In the diagnosis of the Multiple Sclerosis, the patients are in the job in full time, however as the illness progresses, the number of patients capable to continue working diminishes and the job estimates vary from 23% to 32%. The unemployment occurs during the first year after the diagnosis for some patients and increases firmly with the increasing duration of the Multiple Sclerosis. Among the main causes related with the precocious abandonment of the job they are: the use of wheel chair (26 %), fatigue (28 %), the instability (40%) and the difficulties of the gait (45 %). The symptoms such as limited mobility, the poor motor coordination, the fatigue and pain are specialy the most frequent problems [5].

The Multiple Sclerosis manifests itself clinically through a topographical variety of signs and recurrent neurological symptoms, characterizing the dissemination in time and space. The illness has a developing characteristic varying from patient to patient, caused by sequential events of demyelinating and axonal damage. There are diverse lesions in determined systems: piramidal, cerebelar, encephalie trunk, sensitive ducts, optic nerve, sphincters control, cognitive systems and others.

The evolution of this sintomatology is imponderable. The demyelinating can occur in any area of the SNC, however, most of the patients have initial symptoms due to injuries in determined regions, as the optic nerve and periventriculares areas. The illness can be initiate by isolated neurological symptoms (monossintomaptic beginning) or by association of them (polissintomaptic). In most of the cases is initiated by an outbreak and, frequently by polissintomaptic form.

The motor damage is one of the most frequent symptoms in patients with Multiple Sclerosis, its occurrence being estimated in 80% along the cause of the illness. In the initial stage, the cerebelar alterations are not habitual, but they can be present, in general not separately, but associated with the motor and sensorial symptoms, therefore, being common to observe patient with ataxia gait associated to the paraparesia. Surely the cerebelar demage is the most incapacitating in patients with MS, making them totally dependents when the ataxia of trunk is present [6].

As the motor system is highly affected, we have an important disorder of mobility in those patients. Mobility can be defined as the capacity of moving ourselves independently and safely from a place to another. Mobility incorporates diverse tasks, as to go up and get up from down stairs, get us from bed or from a chair and mainly locomotion. The damage in the mobility function, especially the disorder locomotion, is one of the first and more characteristic symptoms of the neurological dysfunctions, between them, the Multiple Sclerosis.

The correlation between the force and the parameters of the gait is frequently studied in the hemiparetic patients, but no study for the patients of multiple sclerosis (MS) has been carried out yet deficiencies. Sensorial and cerebelar deficiencies that frequently occur in the MS can modify the relation between the force and the parameters of the gait.

Mevellec E..e col in 2003 [7], carried through a study correlating the force and the speed of the gait in patients with Multiple Sclerosis. The deficiency of the hamstrings observed, seems to be the most significant parameter of the force to estimate the ability of the gait in the multiple sclerosis. The force of the quadriceps can be critical in some clinical cases with the sensory deprivation, suggesting that a sensory-motor compensation occurs. These results can help to define the modalities of the rehabilitation aiming at the improvement of the function of the gait in the MS. Another very frequent motor damage in the patients with Multiple Sclerosis, intervening with the mobility of the patients is the tonus alteration.

Barnes M.P. in 2003 [8], carried through a study on the espasticity in the Multiple Sclerosis, in its results the patients with greater scores in the Modified scale of Ashworth (counting of 2, 3, 4) had presented greater functional, inability different from of the patients with inferior counting of the same scale. This study has confirmed that the espasticity is a common problem in Multiple Sclerosis, and that it seems to confirm that it is a factor that has an important impact on the functional incapacity of the patient.

In particular, instability can contribute for the sprouting of falls or the fear of them, harming directly the quality of life of these patients. The balance given through the visual, somatosensorial information, propriocepcion and vestibular contests adjusted with the motor answers is frequently lost in the one with MS, taking to the espasticity of the muscles, compromising its mobility. Many researches study the risks of falls in the elderly, and forget that MS has a high index of falls affecting the young population. The accurate determination of these factors for the lapsing and the development of programs to prevent the falls in this population is important. Cattaneo D. and col in 2002 [9] carried through a retrospective study as a controlling case has with the objective to evaluate the risks of fall in patients with Multiple Sclerosis. In its main results he observed significant statistics differences in the daily activities and in mobility ($P<0.05$). Three variants had been associates with the index of falls: balance, gait, and cane use ($P<0.01$).

Mobility is a basic part of the conservation of independence and an essential attribute of the quality of life. Damaged

mobility is an essencial determinative of independence and an important contribution for the disability [10].

The Functional Scales

The use of functional scales is important, and helps to elaborate a profile of the patient, they can be compared with previous evaluations and helps to determine functional objectives [11].

Kurtzke, in 1955, created a called scale called "Disability Status Scale (DSS), that it was brought up to date in 1961 and in 1983, when some item have been inserted, transforming it into a new scale, Expanded Disability Status Scale (EDSS), the most used in the main centers until the present date [6], [12].

Although extensively used, the EDSS presents some imperfections, it doesn´t have a good correlation with the findings of neuroimage though magnetic resonance, it can be insensitive to the clinical activity of the illness, the cognitive evaluation is made in a coarse way, the determination of some scores is very subjective, depending on the self-story of the patient, the scale values in excess the ambulatory capacity of the patient, at its highest scores, among othersvere comments [13].

Another criticism one made to this scale is the fact that it does´t emphasize the evaluation of superior limbs, that certainly interfere with the quality of life of the patients. Mathiowetz and col., in 1985 developed the test of boxes and blocks, with the purpose to evaluate the functional incapacity of superior limbs.

When it was elaborated, the EDSS meant a great advance in the study of the illness, but in the current days the World Health Organization emphasized the idea of valuing the neurological impact in the quality of life of the patients.

Some questionnaires for the evaluation of the quality of life in the Multiple Sclerosis have been created, but there´s no consensus about the best of them. They are instruments that try to evaluate the impact of the illness. General questionnaires for the evaluation of quality of life, we already have in Brazil like the Mos-36, that is validated in the Portuguese language. Among the apecific questionnaires for Multiple Sclerosis we can point out the Functional Assessment of Multiple Sclerosis (FAMS), that includes functional aspects and diverse variables. The scale of functional determination of quality of life (DEFU) was already validated for the Portuguese language.

The necessity of getting reliable and comparable data from the several centers, estimating the impact of the illness and a the treatment in the quality of life of the patients with MS, stimulated some authors to consider scales for gauging neurological incapacities. The first scales proposed had been described for Arkin and col, in 1950 and Alexander in 1951, however they were very complex and of difficult understanding [6].

Currently it´s an extensively accepted practice, the use of instruments (scales), to measure the effectiveness of the clinical interventions. Measuring these results, becomes an important factor for the prevision of the health care, assisting in the quality of life of the patient. However, these instruments must rereliable, to be used in the change of behaviors, or to detect characteristics of the clinical evolution of the patient [10].

Many authors indicate Neurological Rating Scale (NRS), described by Sipe and col. In 1984.(apud Sarrack, Hughes). This scales based on the neurological examination, with special attention to the vesical, anal sphincters vesical, anal and to the sexual disorders. This scale also fails and makes the same mistakes of the EDSS , it emphasizes in excess the neurological functions in detriment of other laborious functions, that have impact in the quality of life, and moreover it was not compared to the other scales to test its sensitivity [6].

Among the examiners, it´s still a reason of discussion in literature, which scale has greater reability and uniformity of results [14]. For that reason, the American Society of Multiple Sclerosis suggested in 1994, a scale that has been used in gradual way in diverse centers, called Multiple Sclerosis Funcional Composite Measure (MSFC). Composed by three distinct measures, ambulatorial index; the test of box with nine bolts and orifices, a variant of the box test and blocks, and a test called Paced Auditory - Addition Task (PASAT). These three tests receive a score by means of a mathematical formula, presenting differently from the EDSS a linear scale in relation to the evolution of the illness [6].

The fatigue is a very common symptom in the patients with Multiple Sclerosis, and it´s important to measure, since it´s directly related with the quality of life [15]. It is an inespecific symptom, defined as a sensation of deep physical fatigue, loss of energy or even sensation of exhaustion, and is important to establish the differentiation from depression and muscular fatigue [16], [17].

The fatigue can be measured by means of the experience related by the patient or objective measures in diverse systems. In the clinical practice, measure has been made through self-evaluation scales, contemplating the subjective aspects of the fatigue. The diverse scales consider to analyse some aspects of the fatigue, as intensity, evolution, associate symptoms, factors that interfere in its characteristics, among others. The greatest criticism that is made about those methods is that we depend exclusively on the information of the patient, with loss of objectivity in the final results.

Diverse scales for this evaluation exist, as: Analogous Visual scale, the Rand-index of Vitality, the Mos-36 (Medical Outcome Survery) and the scale of fatigue of Chalder. These scales can be used for many patologies, neurological or not. The specific scales for Multiple Sclerosis that we find are: Scale of Severity of the Fatigue, Scale on the Impact of the Fatigue, Descriptive Scale of the Fatigue, among others [6].

Mendes and col, in 2000 [16], had carried through a study with patients with Multiple Sclerosis through the combination of general and specific scales and had demonstrated that, when applied thogether they allow the quantitative and qualitative evaluation of the patients.

Conclusion

The Multiple Sclerosis is a tipical example of the difficulty in measuring the results, for its clinical presentations are heterogeneous and the evolution is floating. Diverse instruments with its respective known individual limitations exist. Currently no scale is unanimously accepted by the centers of reference in Multiple Sclerosis. Many centers develop their proper instruments to measure the neurological incapacities and their respective interferences in the activities of the daily life. The search of new scales with a concern of improving their psychometric qualities continues. The challenge remains in determining the conditions of use of each instrument andhow to use. Inface of the absence of a specific scale, to prevent imperfections that can compromise the reliable and the veracityt of the study, it is suggested the association of the diverse existing scales, in order to supply reliable results, to test the efficiency of the treatments and to improve its indications.

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ANALYSIS OF THE FUNCTIONAL INCAPACITIES IN THE MULTIPLE SCLEROSIS: REVIEW OF LITERATURE.

Abstract:
The Multiple Sclerosis (MS) is a demyelinating ilness that presents as a main characteristic the lesion of the formed myelin and where the injuries are developed in association with perivascular inflammation. The ilness is clinically manifested through a topographical variety of signs and recurrent neurological symptoms, characterizing the dissemination in time and space. The motor damage is one of the most frequent symptoms affecting, consequently, the mobility of the patient. Mobility is a basic part of the preservation of independence and an essential determining of independence and important contribution to disability. Currently, an extensively accepted practice is the use of instruments (scales) to measure the effectiveness of the clinical interventions. Measuring these results become an important factor for the health care previsions helping the patient's quality of life. It's still a reason of discussion in literature which scale has greater reliability and uniformity of results among the examiners. However, these instruments must be reliable since they can be used to change behaviors or to detect characteristics of the clinical evolution of the patient. Keywords: Multiple Sclerosis, Physiotherapy, Scales.

ANALYSE DES INCAPACITÉS FONCTIONNELLES DANS LA SCLÉROSE EN PLAQUES: EXAMEN DE LA LITTÉRATURE.

Abstrait
La sclérose en plaques (SP) est un ilness demyelinating qui présente comme caractéristique principale la lésion du myelin formé et où les dommages sont développées en association avec l'inflammation périvasculaire. L'ilness est médicalement manifesté par une variété topographique de signes et de symptômes neurologiques récurrents, caractérisant la diffusion à temps et l'espace. Les dommages de moteur sont un des symptômes les plus fréquents affectant, par conséquent, la mobilité du patient. La mobilité est une partie de base de la conservation de l'indépendance et d'une détermination essentielle de l'indépendance et de la contribution importante à l'incapacité. Actuellement, une pratique intensivement admise est l'utilisation des instruments (balances) de mesurer l'efficacité des interventions cliniques. Mesurant ces résultats deviennent un facteur important pour les prévisions de santé aidant la qualité du patient de la vie. C'est toujours une raison de discussion en littérature que la balance a une plus grandes fiabilité et uniformité des résultats parmi les examinateurs. Cependant, ces instruments doivent être fiables puisqu'ils peuvent être employés pour changer des comportements ou pour détecter des caractéristiques de l'évolution clinique du patient. Mots-Clés: Sclérose en Plaques, Physiothérapie, Balances

ANÁLISIS DE LAS INCAPACIDADES FUNCIONALES EN LA ESCLEROSIS MÚLTIPLE: REVISIÓN DE LA LITERATURA.

Resumen
La esclerosis múltiple (EM) es una enfermedad desmielinizante que presenta como característica principal la lesión del myelin formado y donde lesiones se convierte en la asociación con la inflamación perivascularia. El ilness se manifiesta clínico con una variedad topográfica de muestras y de síntomas neurológicos recurrentes, caracterizando la difusión en tiempo y espacio. El daño del motor es uno de los síntomas más frecuentes que afectan, por lo tanto, la movilidad del paciente. La movilidad es una parte básica de la preservación de la independencia y de una determinación esencial de la independencia y de la contribución importante a la inhabilidad. Actualmente, una práctica extensivamente aceptada es el uso de los instrumentos (escalas) de medir la eficacia de los interventions clínicos. Midiendo estos resultados se convierten en un factor importante para las previsiones del cuidado médico que ayudan a la calidad de la vida del paciente. Sigue siendo una razón de la discusión en la literatura que la escala tiene mayores confiabilidad y uniformidad de resultados entre los examinadores. Sin embargo, estos instrumentos deben ser confiables puesto que pueden ser utilizados para cambiar comportamientos o para detectar características de la evolución clínica del paciente
Palabras claves: Esclerosis Múltiple, Fisioterapia, Escalas

ANÁLISE DAS INCAPACIDADES FUNCIONAIS NA ESCLEROSE MÚLTIPLA: REVISÃO DE LITERATURA.

Resumo:
A Esclerose Múltipla (EM) é uma doença desmielinizante, apresenta como característica principal o comprometimento da mielina formada e onde as lesões desenvolvem-se em associação com inflamação perivascular. A doença se manifesta clinicamente por uma variedade topográfica de sinais e sintomas neurológicos recorrentes, caracterizando a disseminação no tempo e no espaço O comprometimento motor é um dos mais freqüentes sintomas e conseqüentemente da mobilidade do paciente. A mobilidade é parte fundamental da conservação da independência e um atributo essencial da qualidade de vida. Ela comprometida é um determinante essencial da independência e uma contribuição importante para a incapacidade física. Atualmente é uma prática extensamente aceita, o uso de instrumentos (escalas), para mensurar a eficácia das intervenções clínicas. Medir estes resultados, se torna um fator importante para a previsão dos cuidados à saúde, auxiliando na qualidade de vida do paciente. Ainda é motivo de discussão na literatura, qual escala tem maior confiabilidade e uniformidade de resultados entre os examinadores. No entanto, estes instrumentos devem ser confiáveis, para serem utilizados na mudança de condutas, ou para detectar características da evolução clínica do paciente.
Palavras-chave: Esclerose Múltipla, Fisioterapia, Escalas.