Clinical Case Studies Of The Multiple Scleroses Patients In Vlora Hospital During January -December 2015

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Abstract

Multiple scleroses (MS) is an inflammatory chronic disease where the body’s immune system attacks the myelin and destroys the central nervous system, causing the loss of the neural synchronization and functional disconnection among various brain regions. The cumulative evidence supports that physical therapy, has been shown to be beneficial in improving disability in patients with MS. The objective of this research was the review of the charts of the hospitalized MS patients, in order to find the positive effects of physiotherapy and its association with the progress of patient`s condition. This is a retrospective study conducted during January-December 2015 in Vlore hospital, Albania. *Two tailed P value,* was used to find the significance of positive effects of physiotherapy and the progress of patients with MS. A value of $P \leq 0,05$ was considered significant. There were nine charts, which met the study criteria and were included in the final analyses. The mean age of the MS patients was 39.77, SD±8.21, 6 males and 3 females. The most prevalent clinical signs were loss of balance/dizziness, pain /body weakness/muscle rigidity, and memory loss/lack of concentration respectively 66.67%, 55.56% and 55.56%. Six patients had physiotherapy and statistically significance was found between patient`s condition and physiotherapy, $p<0.05$. The results of this study show that physical therapy was a very important factor for the progress of the patients in improving impairment and disabilities.

Keywords: Multiple scleroses, physiotherapy, disability.

Introduction

Multiple scleroses (MS) is an inflammatory chronic disease where the body's immune system attacks the myelin and destroys the central nervous system (brain and spinal cord). The damage of myelin slows or totally interrupts the transmission of the nervous signals through the cortical-cortical and cortical-subcortical ways causing the loss of the neural synchronization and functional disconnection among various brain regions (NIH, 2001). MS is the most frequent cause of the no traumatic limited ability in young adults (Atlas of SM 2013) with a considerable social impact and economical consequences (M. Pugliatti et al., 2006). In the last five years the number of patients with MS increased with 10%, from 2.1 million in 2008 to 2.3 million in 2013. It is supposed that, in Europe there are 630.000 people with MS. MS may develop at any age, but most of the people are diagnosed between ages of 20-40 (NIH,2001). The mean age, more frequently reported is around 30 years old. A small percentage of the MS patients, up to 5% are diagnosed during the teenage years or even younger (Chitnis Tl et al., 2013). A systematic review of the epidemiologic studies on MS shows that the ratio male/female of the incidence has risen from 1.4 in 1955 to 2.3 in 2006 (Alonso A et al., 2008). The raise of the MS incidence in females, may be related with the impact of the environment factors associated to the urbanization (Kotzamani D et al 2012). According to the 2013 report, on the global epidemiology of MS, the highest prevalence of MS is found in North America (140/100,000 residents) and Europe (108/100,000 residents) and the lowest in Sub Saharan Africa (2.1/100,000) and Eastern Asia (2.2/100,000) (. Atlas of SM 2013). The highest prevalence in Europe, is found in Sweden with 189 cases for 100,000 residents and the lowest in Albania with 22 cases for 100,000 residents (Alonso A et al.,2008). The first epidemiological study on the MS prevalence in Albania is performed in 1988 (M. Pugliatti et al 2006). According to this study, the prevalence of MS for 20 years (1968-1987) was 10 for 100,000 residents, while the mean yearly incidence was 0.5 for 100.000 residents (Rose AS et al 1976). In the last study conducted in Albania in 2008, it is noted an increase of MS cases in Saranda (Southwest of Albania) (Kruja J et al.,1994). The incidence is higher in females than males, finding are similar to other European states (Kruja J et al.,2010). In other hand a systemic review suggests that physiotherapy may be effective for the rehabilitation of people with progressive multiple sclerosis (Campbell E et al., 2016).

Objective

To review the charts of the hospitalized MS patients in order to find the positive effects of physiotherapy and the progress of these patients.

Materials and Methods

This is a retrospective study based on the review of the hospital charts of the MS patients of Vlore hospital, Albania. The study was conducted during January-December 2015. We carefully reviewed each chart separately by taking into consideration all the variables. There were all together 9 charts, the main criteria was to include the diagnosed MS patients.

Data analysis

Descriptive statistics, including frequencies, means, 95% coefficient interval (CI), and cross-tabulation tables were used for comparison of dependent and independent variables. *Two tailed P value* was used to find the significance of positive effects of physiotherapy and the progress of patients with MS. A value of $P \leq 0,05$ was considered significant. Epi Info™ 7 software version 7.1.3.10, was used for statistical calculation.

Ethical considerations

In order to conduct this study we had to get permission from the directors of the Regional Hospital of Vlore and the archive supervisor.

Results

The total of charts included in analyes were nine.The mean age (years) of patients with MS was 39.77, SD±8.21.

Table 1. The socio demographic characteristics of the MS patients*

Variables		Frequency (n)	Percentage (%)	*95% CI*
Gender	Female	3	33.33	[7.49–70.07]
	Male	6	66.67	[29.93–92.51]
Civil status	Single	6	66.67	[29.93–92.51]
	Married	3	33.33	[7.49–70.07]
Place of living	Village	4	44.44	[13.70–78.80]
	City	5	55.56	[21.20–86.30]
Education level	Elementary	4	44.44	[13.17–78.80]
	High school	2	22.22	[2.81–60.01]
	University	3	33.33	[7.49–70.07]
Employment status	Employed	2	22.22	[2.81–60.01]
	Unemployed	7	77.78	[39.99–97.19]

*P values > 0.05 for all variables.

Table 2. Clinical characteristics of the MS patients*

	Variables	Frequency (n)	Percent (%)
Diagnoses	MS	8	88.89
	Spastic tetra pareses	1	11.11
Diagnoses of hospitalization	Numbness and feet paralyses	3	33.33
	Urinary Incontinence	2	22.22
	Strong chest pain	2	22.22
	Urinary retention	2	22.22
	Clinical and periodical evaluation of the inability	1	11.11
Clinics	Grave numbness of the extremities	1	11.11
	Loss of balance/dizziness	6	66.67
	Pain and body weakness/muscle rigidity	5	55.56
	Memory loss/lack of concentration	5	55.56
	Depressive state	3	33.33
	Swallowing disorders	2	22.22
	Head aches	2	22.22
	Pain of the spinal cord	2	22.22
	Gastrointestinal disorders/vomiting	1	11.11
	Loss of sight	1	11.11

Table 3. Hospital examinations of MS patients

Variables	**Frequency (n)**	**Percent (%)**	**95% CI**
No treatment	3	33.33%	[7.49-70.07]
Imagery examinations	2	22.22%	[2.81-60.01]
Lab examinations (blood, urine, uremi,creatinemy,glycemia)	3	33.33%	[7.49-70.07]
MRI	1	11.11%	[0.28-48.25]

*P values > 0.05 for all variables.

Table 4. The treatment of the patients

Treatment before hospitalization	Frequency (n)	Percent (%)	95% CI
3 years without cortisone treatment	1	11.11	[0.28-48.25]
Betaferon	2	22.22	[2.81-60.1]
Betainterferone	1	11.11	[0.28-48.25]
Dexametazone	1	11.11	[0.28-48.25]
Interferon	3	33.33	[7.49-70.07]
Cortisone	1	11.11	[0.28-48.25]
Hospital treatment	Frequency (n)	Percent (%)	95% CI
Betametazon	1	11.11	[0.28-48.25]
Manitol/Betametazon	1	11.11	[2.28-48.25]
No treatment	5	55.56	[21.20-86.30]
Ranitidine/NaCl perfusions	1	11.11	[0.28-48.25]
Salumedrol	1	11.11	[0.28-48.25]
In hospital days	Frequency (n)	Percent (%)	95% CI
2 days	4	44.44	[13.70-78.80]
3 days	1	11.11	[0.28-48.25]
5 days	4	44.44	[13.70-78.80]

*P values > 0.05 for all variables.

Table 5. The effects of physiotherapy

Physiotherapy	Frequency (n)	Percent (%)	95% CI
Yes	6	66.67	[29.93-92.51]
No	3	33.33	[7.49-70.07]
If the patients has had physiotherapy, how many sessions?	Frequency (n)	Percent (%)	95% CI
Only 5 sessions	1	16.67	[0.42-64.12]
Some sessions	1	16.67	[0.42-64.12]
Some sessions abroad	1	16.67	[0.42-64.12]
Non specified	2	33.33	[4.33-77.72]
For 2 years abroad	1	16.67	[0.42-64.12]

Table 6. The association between physiotherapy and MS patients condition

Variables	***Yes(n) (%)***	***No (n)(%)***	**2-tailed P**
The patient condition			
Better	5 (88.33)	1(16.67)	**0.047**
Worse	0 (0.00)	3 (100.00)	

Table 7. The beginning and progress of the disease

Beginning of disease	Frequency (n)	Percent (%)	95% CI
Acute and immediate	4	44.44	[13.70-78.80]
Gradual	5	55.56	[21.20-86.30]
The disease progress	Frequency (n)	Percent (%)	95% CI
Gradual	4	44.44	[13.70-78.80]
Fast	1	55.56	[0.28-48.25]
Fast the last 2 years	2	77.78	[2.81-60.01]
Progressive deterioration	1	88.89	[0.28-48.25]
Very fast	1	44.44	[0.28-48.25]
The presence of meningeal signs	Frequency (n)	Percent (%)	95% CI
Yes	3	33.33	[7.49-70.07]
No	6	66.67	[29.93-92.51]
Family history with MS	Frequency (n)	Percent (%)	95% CI
Yes	3	33.33	[7.49-70.07]
No	6	66.67	[29.93-92.51]

*P values > 0.05 for all variables.

Discussion

The mean age of the MS patients in our study was 39.7 years, very close to mean age reported in literature, 20-40 years old (NIH, 2001).

Referring to the Table 1, the socio demographic characteristics of the MS patients included in the study shows that the number of males with MS is higher than the number of females, with a ration 2:1, which is contrary to the findings of the literature where the females dominate with a ratio 4:1(AAN,2007). The literature shows that the number of MS patients is higher among people that belong to a lower education level and socio economic status, our study is similar too (Bjørnevik K et al.,2015). 44.44% of the patients in our study live in the village and 55.56% in the city, but the literature shows that there is a higher number of patients living in the village. Our study shows that the unemployed people are in 77.88% and the employed people are only 22.22%. We can see this evidence also in literature (Shahrbanian S et al.,2013). In our study we see that 66.67% of the patients are single, and only 33.33% are married. Being married at any point during the course of MS appears to confer a benefit in MS disease progression (Jill R Settle et al.,2014).

Referring to the Table 2, as in the literature (Bridget M Wilson, et al.,2015) the clinical signs of the hospitalized patients are similar to the ones that our patients have presented. In our study we see that depressive state is in 33.33% of the patients, and memory loss/lack of concentration in 55.56%, higher that reported in other similar studies, 24% (Amtmann D1 et al.,2014).

Pain affects between 44% and 80% of people with MS and has a significant impact on their lives (Hirsh *et al.*, 2009; O'Connor *et al.*, 2008; Ehde *et al.*, 2006) in our study we see that pain of the spinal cord is in 22.22% of the patients, pain and body weakness/muscle rigidity is in 55.56 % of the patients, headaches is in 22.22% of the patients.

The findings confirm (Guan XL et al.,2015), that more than one-third of the multiple sclerosis patients are suffering from swallowing difficulties. In our study, we can see that 22.22% of patients have swallowing disorders. In our study we don't have any patient with pulmonary problems, even if gastrointestinal, musculoskeletal, and pulmonary comorbidities were common in the MS population (Ruth Ann Marrie et al.,2015)

Referring to tha Table 3, and from what we are referred by doctors neurologists and nurses, these patients due to the lack of specific treatments in our hospitals, they are kept there simply in observation (33.33 %) or when are subjected to laboratory analysis 33.33 %. All this done, in order to have the possibility of completing the documentation used to *document* the stated *disability*. **Referring to the Table 4, we can see that the most prevalent treatments before hospitalization of the patients were with** Betaferon and Interferon, respectively 22.22% and 33.33%. In literature we see that the treatment of MS is not so limited (Alan M Palmer et al., 2013) The main characteristic feature noted at these patients is that all of them receive only symptomatic treatment while in hospital. Most of the treatments aim to reduce the symptoms that brought them to the hospital in the first place.

Referring to the Table 5 and 6, 66.67 % of the hospitalized patients have had some physiotherapy. These sessions, even though not regular, have improved their condition, $p < 0.05$.

Referring to the Table 7, the beginning and progress of the disease, in 44.44% of the patients is acute and immediate and in 55.56% is gradual. The results are similar with other studies, which confirm that the disease is different for everyone who has it (MSF, 2014).

The presence of meningeal signs are in 33.33% of the patients and we have done the evaluation of this signs, because as we have seen that in the literature exist a risk of under-diagnosis of Mood Disorders (MD), particularly Bipolar Disorders in MS (Carta MG et al., 2013).

In our study, we see that 66.67% of the patients have not a family history with MS, and 33.33% have a family history, Table 7. In literature studies show the higher aggregation of susceptibility variants in multi-case families compared to sporadic MS, using the most updated genetic information available for MS and a large and well-characterized familial dataset (Pierre-Antoine Gourraud et al.,2011).

Conclusion

Physical rehabilitation in multiple sclerosis (MS) patients is related to their quality of life. Based on evidence and the results of our study physical rehabilitation plays a beneficial role in improving disability in patients with MS. Physiotherapists and Nurses with the involvement of family members can contribute to create a multidisciplinary approach to set a Rehabilitation programme in accordance with the needs and the disabilities of MS patients.

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