

Treatment of Fibromyalgia with Hyperbaric Chamber, Multiple Case Study

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Received: September 28, 2018; **Published:** January 29, 2019

Abstract

Introduction: Fibromyalgia (FM) is a disease of unknown etiology characterized by chronic widespread pain. Besides other symptoms, such as fatigue, sleep disturbances, paresthesias, depression, morning stiffness, among the most common manifestations. Treatment with conventional therapies (antidepressants, pregabalin, etc.) is sometimes inadequate, failing to improve patient health, so it is necessary to exhaust all available to achieve an improvement resources. The hyperbaric chamber (HBO) is a therapeutic modality in which the patient breathes oxygen (O₂) at high concentrations.

Material and Methods: 6 female patients with a diagnosis of FM severe refractory to conventional treatment (pregabalin and tramadol reuptake inhibitor antidepressants serotonin), all had sleep disturbance, fatigue and pain in at least 11 of 18 points fibrositis. 10 sessions were given HBO 2.5 atmospheres absolute (ATA) for an hour. Fatigue and morning stiffness were assessed using the Spanish Impact Questionnaire fibromyalgia, fibrositis points by clinical examination and pain intensity with visual numeric scale (EVN).

Results: A total of 6 patients were analyzed, with a mean age of 40.33 years (age range 22 - 51 years). All female 100% reported improvement in pain after palpation of fibrositis fewest points them to the physical exam, the number of pain points with pre-treatment were 17.00 +/- 1.10 with a maximum of 18,00 and a low of 16.00. Post treatment the amount of pain points were 7.67 +/- 1.51, with a high of 10.00 and a low of 6.00. Decreasing fatigue and morning stiffness was also recorded by impact questionnaire Spanish fibromyalgia in 100% of cases after treatment.

Conclusions: We consider it necessary to carry out further work with larger numbers of patients, to further research on the benefit of this treatment modality, since evaluative means, read Spanish impact questionnaire fibromyalgia and visual scale numerical (EVN) are not entirely objectives.

Keywords: Fibromyalgia; Hyperbaric Chamber; Hyperbaric Oxygen

Introduction

The fibromyalgia (FM) is a disease of etiology unknown to be characterized by dolor chronic generalized. In addition present other symptoms, as fatigue, alterations of dream, paresthesias, depression, rigidity morning, among the manifestations more common [1,2].

Usually spend unnoticed, due that there is no studies specific what confirmed your diagnosis. Also the patient no usually present deformities except that present any disease underlying, as by example, arthritis rheumatoid lupus spondylosis spondylitis [1,3].

The patients with this pathology usually pilgrimage by different professional with several studies, all normal, i which one delay the diagnosis in months and up to in years. I do not know tests of laboratory or images pathognomonic the diagnosis is clinical [1,2,4-8] for the which one is used questionnaire Spanish of impact in the fibromyalgia [9-11].

As the first criteria of classification of the ACR (American College of Rheumatology) established In 1990, the FM is defined by a history of pain generalized of more of 3 months of duration continue, in both sides of body by over and by under in the waist, and pain in the skeleton axial. In addition must occur pain to the palpation from al less 11 of 18 points fibrositis's: occipital, low cervical, trapeze, supra-spinatus, second space intercostal in the union costochondral, epicondyle, gluteus, trochanter greater and knee [2,6,7,12].

The oxygen therapy hyperbaric (OHB) is a mode therapeutic what is in as the patient breathe oxygen (O_2) pure to 100% in the interior of a chamber to a pressure greater than the atmospheric, raising the value of this in until three times, this ago that the O_2 no circulate only transported in the hemoglobin, but also dissolved in the plasma blood [13,14].

As Akarsu S, the Ap the cation from OHB can be favorable in the treatment of this pathology [15], due into the relationship between the flow blood cerebral and the fatigue chronic, the OHB could have action about this hiccups flow, allowing the arrival of O_2 that the brain require for your normal operation [13,16-18].

The stress oxidative EO has a paper relevant in the pathophysiology of the FM. The peroxidation lipid (PL) and the proteins carbonizadas are products end of the damage in the membrane induced through the species reactive of O_2 (ROS), these is have observed to increased in the plasma of patients with FM, for other side the enzymes antioxidants as the superoxide dismutase (SOD) or the catalase is have observed decreased in the plasma of the patients with FM, this EO that produces the hyperoxia generated in the OHB stimulates the broadcasting antioxidant endogenous what remains high then to be retired in the camera [19-21].



Image Photographic In the Camera Hyperbaric of the Dr. Pedro Naval Hospital Mallo.

Material and Methods

Is used a camera hyperbaric MultiLaza Model COMEX 1500, manufactured by COMEX PRO for the Naval Hospital Pedro Mallo in 1980 with capacity for 5 patients.

This study is made among the months of September until November of the 2013. A total of 6 patients were analyzed with an average of age of 40.33 years (range of age 22 - 51 years), all of sex female with diagnosis of FM severe refractory to treatment conventional with pregabalin, tramadol and antidepressants inhibitors in the reuptake of serotonin, all the presented disorder of dream, fatigue and pain in to less 11 of 18 points fibrositis's.

Criteria of inclusion: Patients female with FM severe refractory to treatment conventional (pregabalin, tramadol and antidepressants inhibitors in the recaptation of serotonin) then of 3 months of tracking.

Criteria of exclusion: Pneumothorax, otitis, sinusitis, claustrophobia, pregnancy.

They are administered 10 sessions of O₂ In camera hyperbaric at 2.5 atmospheres absolute ATA during an hour of historical reasons why via, more 15 minutes for the compression and 15 minutes for the decompression, were equipped with mask survival with bag of reservoir what allows output of CO₂ with valve and achieved a FIO₂ of 80%.

The intensity of pain is evaluated with the scale visual numerical (EVN), the which one is in a rectangle divided in 11 parts with an end marked with the legend "no pain" corresponding to number 0 and other end what indicates "maximum pain corresponding to number 10, between medio these, are classified the numbers in the following way: from 1 to 4 pain slight, from 5 to 7 pain moderate, 8 and 9 pain intense the patient brand of agreement into the intensity of same perceived to which one number considered to be corresponds [22]. The fatigue and the rigidity morning is evaluated by the questionnaire Spanish of impact in the fibromyalgia [9-11] it analyzed the data with the program Microsoft Office Excel® version 2007 by 3 tables, one for the obtaining of results about in the amount of points painful E intensity of pain perceived pre and post treatment and other 2 that reflect the results of questionnaire Spanish of impact in the fibromyalgia, expressing the result in percentages pre and post treatment in these latest.

Results and Discussion

100% referred improvement of pain in the palpation of the points fibrositis's with less amount of all the same to test physical. The intensity of pain (EVN) decreased in 100% of the shows. Also is recorded the decrease of the fatigue and the rigidity morning by questionnaire Spanish of impact in the fibromyalgia, in 100% of the cases post treatment.

In the table 1, before the question number 7 of the questionnaire Spanish of impact in the fibromyalgia 100% answered the option b) Pre-treatment and then the option A) post treatment.

Pre Treatment			Post Treatment	
How it has been sense to rise to the morning?	Amount of Patients	%	Amount of Patients	%
A) I have awakened rested	0	0%	6	100%
b) I have awakened very tired	6	100%	0	0%
Total	n = 6	100%	n = 6	100%

Table 1: Fatigue pre and post treatment.

In the table 2, before the question number 8 of the questionnaire Spanish of impact in the fibromyalgia 100% answered the option b) Pre-treatment and then the option A) post treatment.

Pre Treatment			Post Treatment	
Until what point has been sense rigid?	Amount of patients	%	Amount of patients	%
A) I have not sense rigid	0	0%	6	100%
b) I have sense rigid	6	100%	0	0%
Total	N = 6	100%	n = 6	100%

Table 2: Rigidity pre and post treatment.

In the table 3, the amount of points with pre pain treatment were 17.00 +/- 1.10 with a maximum of 18.00 and a minimum of 16.00. Post treatment the amount of points with pain were 7.67 +/- 1.51 with a maximum of 10.00 and a minimum of 6.00. The total EVN pre-treatment was of 131.00 +/- 8.27, with a maximum of 142.00 and a minimum of 122.00. Post treatment was 36.33 +/- 7.42 with a maximum of 44.00 and a minimum of 24.00.

N	Pts. Pre Pain	Pts. Post Pain	Total EVN Pre	Total EVN Post
1	16	8	122	42
2	18	8	130	40
3	18	8	142	32
4	18	10	140	44
5	16	6	128	36
6	16	6	124	24
Media	17,00	7,67	131,00	36,33
Desv. Is.	1,10	1,51	8,27	7,42
Max	18,00	10,00	142,00	44,00
Min	16,00	6,00	122,00	24,00

Table 3: Amount of points painful E intensity pre and post pain treatment.

In the figure 1 is manifest the average in the amount of points painful reported pre and post treatment, 17.00 and 7.67 respectively.

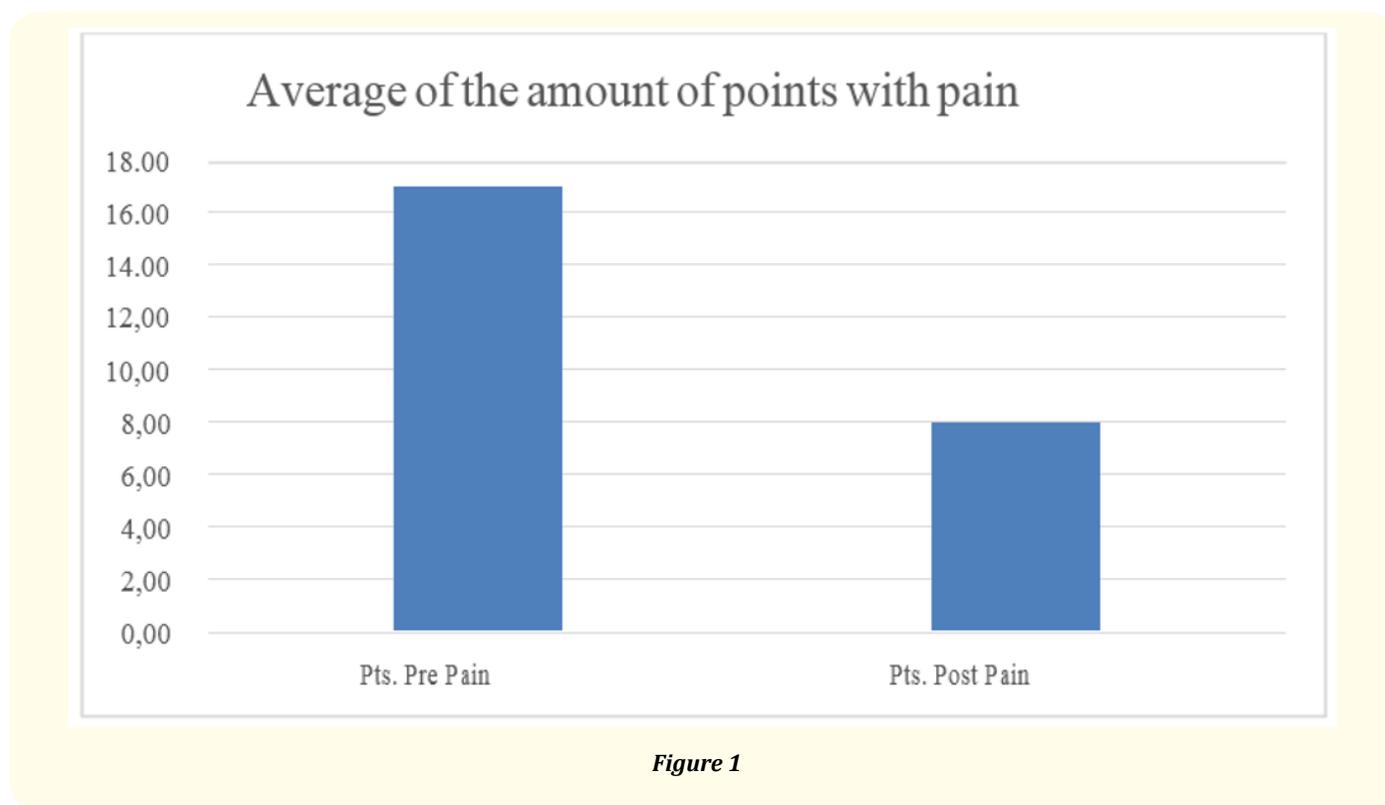


Figure 1

In the figure 2 gets manifest the average of the EVN registered pre and post treatment, 131.00 and 36.33 respectively.

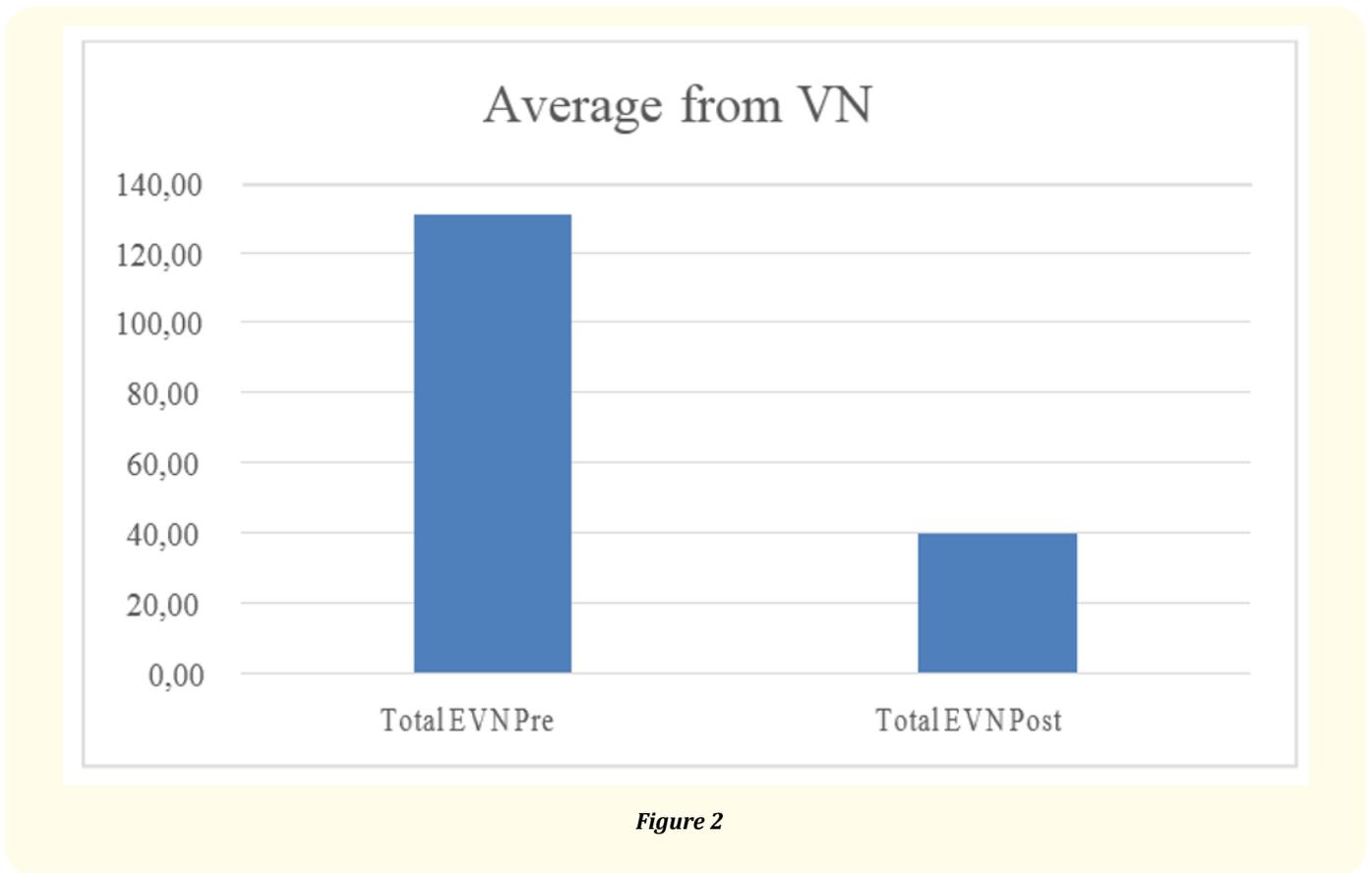


Figure 2

Conclusion

Consider necessary make new works with greater number of patients, in order to deepen the research about the benefit of this mode therapeutic, already that the media evaluative, read questionnaire Spanish of impact in the fibromyalgia and scale visual numerical (EVN) are not all objectives.

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Volume 10 Issue 2 February 2019

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