The Impact of Undervalued Non-Pharmacological Therapy in Chronic Migraine Case: A Case Report

Miguel Angel Medina Pabon[1*] and Olga Viviana Zaraza Moncayo[2]

[1]*Cancerology Institute of the Americas, Medellin, Antioquia, Colombia*

[2]*Universidad Pontificia Bolivariana , Medellin, Colombia*

[*]**Corresponding author:** Miguel Angel Medina Pabon, Cancerology Institute of the Americas, Medellin, Antioquia, Colombia, E- mail: michael.medpa@gmail.com

Abstract

Chronic migraine is a disabling and debilitating disease, affecting 1.7-4% of the general population. It is the third cause of moderate to severe pain in the emergency department, in under 50. These case series describe the experience of managing chronic migraine in a headache program of IPS Envigado, Colombia, highlighting the importance of non-pharmacological management and doing a review of the subject. We included 22 patients who met the criteria of chronic migraine and one-year follow-up, using preventive management (propranolol, amitriptyline, and valproic acid) and non-pharmacological (aerobic exercise, meal times, balanced diet, sleep hygiene, avoiding sun exposure, behavioral psychotherapy, psychoneuroimmunotherapy techniques). Finally, there were found a reduction of migraine episodes in 88% and 75% in half of the adherents and pharmacological non-adherent, respectively. Furthermore, it is considered that non-pharmacological therapy had a significant impact not only improving the prognosis but preventing chronicity.

Keywords: Primary headache, Chronic headache, Chronic migraine, Migraine with aura, Non-pharmacological treatment, Preventive treatment

Introduction

The prevalence of migraine in the last 3 months is 15.3% in the United States; this includes 20.7% of women and 9.7% of men. [1] Chronic migraine is a multifactorial disease, incapacitating and debilitating when the appropriate management is not received, at 1.7-4% of the general population. [2] It is the third cause of moderate to severe pain consulted in the emergency department, mainly in under 50 years of age, which requires more staff and longer time to stay. [3] However, the efficacy of pharmacological therapies can sometimes be unsatisfactory and poorly tolerated, which leads to a withdrawal of management. [4] There is a great need in clinical practice for alternative outcomes for acute and preventive treatment. [5-8] Frequently, this need may arise in the context of migraineurs medication that is not available. [9] At the opposite extreme, physicians could confront patients who have been refractory to numerous medications. In recent years, new non-pharmacological therapeutic results have emerged showing good results [10], among them, physical conditioning can have a prophylactic effect on the frequency of migraine [11], education in self-care and self-control The reduction of pain intensity using behavioral therapies and relaxation techniques. [12-14] The experience of managing chronic migraine in a headache program of IPS Envigado, Colombia, is described below, generating new hypotheses for future research.

Case Report

The cases were reviewed retrospectively from the clinical records of the headache protocol of the Regional Clinic of the Aburra Valley National Police, in Envigado, Antioquia, Colombia. In the program, the main variables were recorded in the clinical history, such as the intensity, duration, and frequency of migraine episodes in the last month, and pharmacological compliance was evaluated in each control consultation through the test of Morisky-Green [15], thus avoiding information biases. They were attended by a general practitioner, with experience in neuro-linguistic programming and neurological diseases.

For the present study, 22/30 patients were included, fulfilling the criteria of chronic migraine, according to ICHD III. [6] The selection criteria were: patients with chronic headache more than 15 days a month and who had at least eight days of migraine without aura or aura for more than three months -over 18 years of age, which has been treated in the headache program from September 2015 to September 2016, with at least one control consultation. Patients with a follow-up time of more than one year and those with cognitive limitations or mental retardation were excluded from the present study.

The data were recorded and analyzed using the SPSS V22® Statistics software, with IBM registration of the CES University. A descriptive analysis was carried out for this series of cases, mainly measures of central tendency -using means with standard deviation for quantitative variables with normal distribution, and medians with interquartile ranges for non-normal ones. For qualitative variables in absolute and relative frequencies. This work was approved by the scientific committee of the Central Teaching Hospital -HOCEN-DEDOC National Police, and the Ethics Committee of the University of the CES.

The results of the 22 patients, it was found that 77.3% were women, with an average age of 43 years (SD: 13), they came from the urban area. Similarly, 63.6% of the consultants were family of police officers, among them mothers, wives and daughters and the rest were patrollers, officers, sub-intendants, intendants, and pensioners. Migraine with aura occurred in 45.5% of cases. The pathological background and risk factors for chronicity are described in Table 1.

On the other hand, all patients received preventive treatment; the most commonly used medication was propranolol in 77.3% of the patients, valproic acid in 36.4% and amitriptyline in 31.8%. In half of the cases it was formulated with a combination therapy (Propranolol 80 mg/day + Valproic Acid 250 mg/day or Propranolol 80 mg/day + Amitriptyline 25 mg/day). Additionally, analgesics such as NSAIDs (naproxen, meloxicam, ibuprofen, dipyrone) plus acetaminophen or sumatriptan were used for migraines attacks. Only 36.4% of the patients were compliant with the preventive treatment, according to the Morisky Green scale.

However, in the non-pharmacological management, the following recommendations were used: perform an aerobic exercise one hour a day, have a meal schedule, eat a balanced diet of fruits, vegetables, and few calories, sleep between 6 and 8 hours a day, avoid exposure to the sun for a long time. Moreover, they learned sentences, phrases, positive words that helped them relax. Also, they were taught, through psychotherapy, to become aware of their spiritual life for internal healing, to realize their life project and refocus their attention.

Furthermore, psychoneuro-immunotherapy techniques (PNIT) such as Push, Orange Fire, Clapper, Empty Chair, Talismatic Laughter and Thalamic Breathing were used, which worked to resolve emotional situations related to migraine.[14] Between 5 and 7 techniques were used in each consultation in 73% of the cases and it was found that

77.8% complied with the non-pharmacological recommendations, mainly exercise, sleep schedule, meal schedule, the healing phrase, respiration thalamic, clapper, spiritual connection, be excellent, keep the peace and project of life.

Finally, eight patients were found to be adherent with the preventive pharmacological treatment and fourteen patients did not comply with the pharmacological treatment according to the Morisky-Green test. Therefore, half of the adherents had a reduction of migraine episodes in 88% (RIC 83-96), 90% (RIC 25-98) in the duration and 27% (RIC 18-69) in the reduction of pain intensity, compared with half of the non-adherent patients who had a reduction of migraine episodes in 75% (IQR 67-81), 63% (IQR 0-83) of duration and a decrease in pain intensity by 11% (RIC) 0-20). Table 2 shows the consolidated results.

Discussion

The present study is the only CM series reported in Latin America in the description of a headache program that focuses on the application of multiple non-pharmacological techniques and complements it with pharmacological therapy. [1,2,5,7] The importance of non-pharmacological interventions was explained in several studies with positive results in patients suffering from this disease. Among them, avoid the sun, exercise daily, control insomnia, manage depression and anxiety, eat a balanced diet, have a positive attitude, are essential factors that contribute to reducing the intensity, time and frequency of episodes of migraine. [10-18]

Additionally, the findings found in this series of cases, we found a reduction in upper migraine episodes compared with studies reported in the world literature, which requires a minimum of 6 months of preventive medication at full dose to reduce 50% of the episodes. [7] Regarding pharmacological adherence, it was similar to other studies, with adherence ranges of 21-80% at six months and 7-55% a year. [8]

On the other hand, the factors of chronicity such as female sex, family inheritance were presented by some patients, but many patients had modifiable factors such as depression, anxiety, work stress, insomnia, overweight and obesity that were treated with therapies. However, the absence of preventive pharmacological treatment had a higher frequency than that reported in the literature. [4-6]

Conclusion

Non-pharmacological recommendations are increasingly important in medical practice, firstly because it improves the prognosis and avoids chronicity, second, it reduces the number of consultations and the time spent in the emergency room and finally, generates new hypothesis for clinical research.

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Table 1: Pathological antecedents and risk factors for the chronicity of migraine.

		Total: 22	**%**
Personal history	Cardiovascular [a]	7	32%
	Psychiatric [b]	3	14%

	Others [c]	7	32%
	None	5	23%
Family history of migraine		5	23%
Depressive symptoms		9	41%
Anxiety Symptoms		15	68%
Work stress		5	23%
High BMI	Overweight (25-29.9)	9	41%
	Obesity (>30)	4	18%
Without previous preventive treatment		20	91%

[a]HTA, Diabetes, Dyslipidemia, Chronic Renal Insufficiency, Hypothyroidism; [b]Panic disorder, depression and anxiety; [c]Fibromyalgia, COPD, gastroesophageal reflux, gastritis, irritable bowel, and musculoskeletal pain.

Table 2: Clinical results at the beginning and end of the measurement in the headache program of the 22 patients.

Migraine characteristics and number of controls	**Initial consultation**		**Final consultation**	
	Me[a]	**RIC[b]**	**Me**	**RIC**
Number of episodes per month	14	(12-20)	3	(2-5)
Intensity level from 1 to 10	9	(8-10)	7	(6-9)
Duration time in hours	24	(6-24)	4	(1-24)
Number of control appointments			2	(1-5)
Follow-up time in months			4	(2-8)

[a] Median; [b] Interquartile range.