



Original

Migraine aura: results from an art contest

Aura da enxaqueca: resultados de um concurso de arte

Bruna de Freitas Dias¹  Aaro Belitardo de Oliveira²  Juliane Prieto Peres Mercante² 
Michele Viana^{6,7}  Luiz Paulo de Queiroz⁵  Mario Fernando Prieto Peres^{2,3,4} 

¹Faculdade Israelita de Ciências e Saúde Albert Einstein (FICSAE). ²Associação Brasileira de Cefaleia em Salvas e Enxaqueca (ABRACES). ³Instituto de Psiquiatria do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (IPQ-HCFMUSP). ⁴Instituto Israelita de Pesquisa Albert Einstein Hospital Israelita Albert Einstein (HIAE). ⁵Universidade Federal de Santa Catarina. ⁶Headache Group, Department of Basic and Clinical Neurosciences, King's College London, London, UK. ⁷Headache Center, Neurocenter of Southern Switzerland (NSI), Regional Hospital Lugano.


Mario F P Peres
mariop3r3s@gmail.com

Abstract

Introduction

Migraine is a common primary headache and a major cause of disability. In at least a third of migraine attacks, the headache is preceded or accompanied by aura, and the visual manifestation is the most frequent phenotype. Migraine with aura is underdiagnosed and undertreated. So, a detailed aura iconography is important for better recognition, prevention, and treatment of migraine with aura.

Objective

A visual aura art contest was performed by ABRACES (Brazilian Association of Cluster Headaches and Migraines) in order to provide new images for raising awareness among the population and professionals and decreasing the gap between diagnosis and treatment.

Methods

The contest involved a free subscription of drawings, paintings, and digital art that expressed realistic results of a visual aura of migraine and answering a questionnaire. The awards were separated into two categories (painting/drawing and digital art/photography) and amounted up to R\$5,000.

Results

There were 139 participants (76% women). The most common visual aura's characteristic was colorful points, and the less frequently was golden. The duration of visual aura was 110.6±450.5 min (1- 3,600 min). 36.7% of the subscribers have only one kind of visual aura, and 33.8% answered that have more than one kind. 46.5% said that their visual aura almost never occurs without pain after or while aura, and 19% reported that their visual aura always occurs without a headache.

Conclusion

Art contests are useful tools for disease awareness. Further actions in disseminating aura images may help migraine aura underdiagnosis and undertreatment.

Resumo

Introdução

A enxaqueca é uma cefaleia primária comum e uma das principais causas de incapacidade. Em pelo menos um terço dos ataques de enxaqueca, a cefaleia é precedida e/ou acompanhada por aura e a manifestação visual é o fenótipo mais frequente. Enxaqueca com aura, um subtipo de enxaqueca, é subdiagnosticada e subtratada. Portanto, uma iconografia detalhada da aura é importante para um melhor reconhecimento, prevenção e tratamento da enxaqueca com aura.

Objetivo

Um concurso de arte de aura visuais foi realizado pela ABRACES (Associação Brasileira de Dores de Cabeça e Enxaqueca), para que mais imagens possam ser usadas para aumentar a conscientização da população e dos profissionais, otimizando o diagnóstico e o tratamento.

Métodos

O concurso envolveu inscrição gratuita de desenhos, pinturas, e arte digital e fotografia que expressavam resultados realistas de uma aura visual de enxaqueca e preenchimento de um questionário. Os prêmios foram separados em duas categorias (pintura/desenho e arte digital/fotografia), numa quantia até R\$ 5.000.

Resultados

Foram 139 participantes, 24% homens e 76% mulheres. A mais prevalente característica da aura visual foi a presença de pontos coloridos e menos frequentemente dourados. A duração média foi de 110,6 minutos (450,5 de desvio padrão), mediana de 20 minutos, mínimo de 1 minuto e máximo de 3600 minutos. 36,7% dos participantes possuem apenas um tipo de aura visual e 33,8% responderam que possuem mais de um tipo. 46,5% disseram que sua aura visual quase nunca ocorre sem dor após ou durante a aura e 19% relataram que sua aura visual sempre ocorre sem dor de cabeça.

Conclusão

Concursos de arte são ferramentas úteis para a conscientização de doenças. Outras ações na disseminação de imagens da aura podem ajudar no subdiagnóstico e subtratamento da aura da enxaqueca.

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Introduction

Migraine is a common primary headache and a major cause of disability¹. It is characterized by recurrent episodes of headache often associated with nausea, vomiting, photophobia and phonophobia. The annual prevalence in general population is an average of 12%, and it is more frequent in 25 to 55 years old individuals and women population². Patients have episodic attacks separated by interictal phases. The attack is an interplay between genetic³ and environmental factors, possibly resulting in a dysfunctional state and structure alteration of the brain^{4,5}.

In at least a third of migraine attacks, the headache is preceded and/or accompanied by reversible neurologic symptoms, named aura. This condition is classified as migraine with aura, a subtype of migraine disorder. In early descriptions, aura is linked to migraine since 1870, when Elliott showed the idea of migraine as a disorder characterized by aura, and associated with creativity, intellect, and visual disturbance.

According to Headache Classification Committee of the International Headache Society (IHS)⁶, aura is described as one or more of visual, sensitive, speech, motor, brainstem or retinal symptoms. Positive and/or negative visual manifestation is the most frequent phenotype, present in 98% of the patients⁷. Prevalent symptoms are flashes of bright light, foggy/blurred vision, zigzag or jagged lines, scotoma and phosphenes; and less frequent are more complex perception, such as misperception of distance, fractured vision, dysmorphopsias, tunnel vision, hemianopsia, curved or circular lines, among others⁸. Since visual auras varies in form, severity and duration both among patients and within each patient⁹, the anatomical location, extent and probably nature of the underlying occipital dysfunction must vary.

Migraine with aura are underdiagnosed and undertreated, partially because of misdiagnosis¹⁰. The consequences are chronic migraine, decreased quality of life and work productivity¹¹⁻¹³. A detailed aura iconography is important for better recognition, prevention and treatment of migraine with aura.

An aura art contest was performed by ABRACES (Brazilian Association of Cluster Headaches and Migraines), so more images can be used for raising awareness of population and professionals, decreasing the gap between diagnosis and treatment.

Methods

The Art Contest Migraine Visual Aura by ABRACES involved free subscription of drawings, paintings, digital art and photography that expressed realistic results of a visual aura of migraine. The applications were open to September 22th until October 6th, 2019. The awards were separated in two categories (painting/drawing and digital art/photography) and were equivalent to up to R\$ 5.000.

The participants were people that have migraine with visual aura or people with artistic skills that asked somebody who has.

Visual aura was characterized as a disturbance of visual perception that occurs before the start of a migraine (or during), in a gradual way, lasting five minutes to one hour and completely reversible.

Some questions were ascertained, such as: "how did you hear about the contest?", "are you submitting this work to someone else?", "how long does your aura take on average (in minutes)?", "do you have more than one type of aura?", "does your visual aura occur without a headache?" and "what are the characteristics of your visual aura?".

Double data and data not properly filled were excluded to analyzing the results.

Statistical analysis

Categorical variables are presented as percentages and absolute number and continuous variables are presented as means with standard deviation, median, maximum and minimum data.

Results

There were 139 participants in the contest. It was composed by 24% men and 76% women.

Most of participants heard about the contest by social medias: Instagram (38%) and Facebook (38%), 9% from google, 9% from ABRACES website, 5% from other vehicle of information and 1% from interview. The great majority submitted their own art expressing their visual aura.

Figure 1 detailed the prevalence of the characteristics of the visual aura. The most common was presence of points and colorful and the less common was golden. 20% of the participants answered that their visual aura has others features not mentioned.

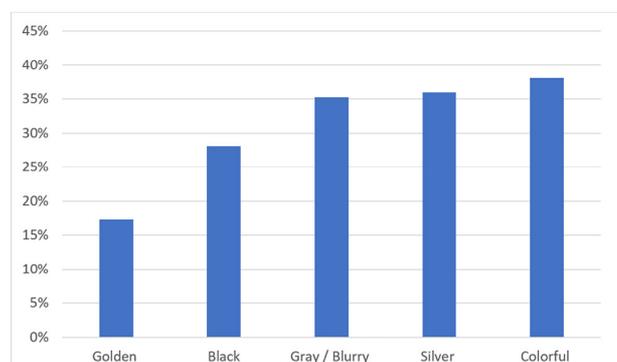


Figure 1. Percentage of visual disturbances reported by contest participants Type of color

The mean duration of visual aura was 110.6 minutes (450.5 of standard



deviation), median of 20 minutes, minimum of 1 minute and maximum of 3600 minutes.

About the predominance of the pattern of visual aura, 36.7% of the subscribers have only one kind of visual aura and 33.8% answered that have more than one kind. Besides visual aura, 6% of the participants also present loss of strength in one half of the body, 9% have difficulty of speaking and 14.4% show tingling in a half of face or body (Figures 2 and 3).

About the relation with headache, 8 participants did not fill the field. From 131 of the participants that answered, 46.5% said that their visual aura almost never occurs without pain after or while aura and 19% reported that their visual aura always occurs without a headache (Figures 4, 5 and 6).

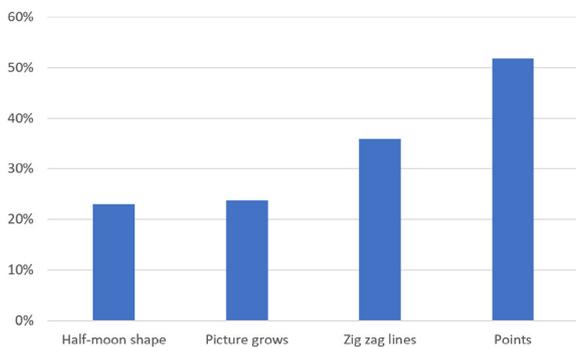


Figure 2. Percentage of visual aura types.

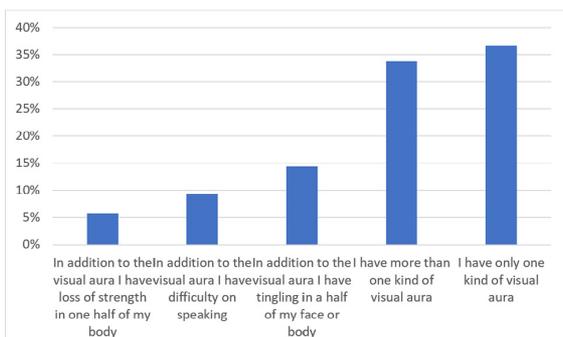


Figure 3. Percentage of visual auras, non-visual auras, with one type of visual auras or more than one visual aura.

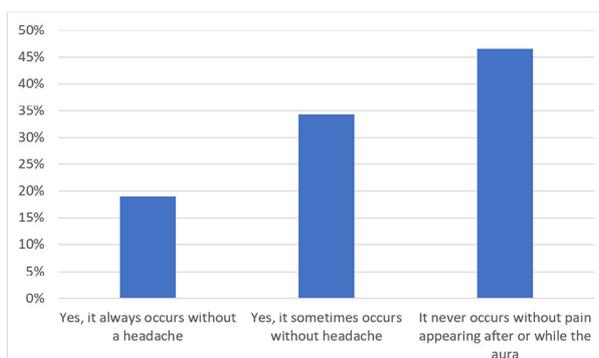


Figure 4. Visual aura occurring with or without headache.

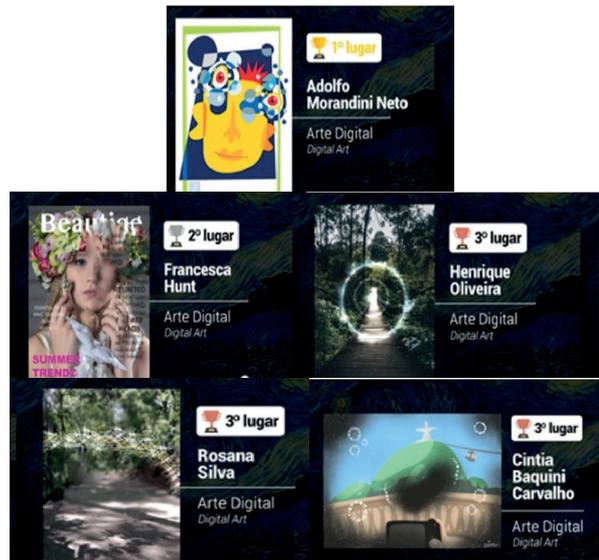


Figure 5. Winners of the contest for the category digital art



Figure 6. Winners of the contest for the category painting

Discussion

The visual aura contest attracted a significant number of participants who contributed with representations of migraine auras. This helped us in generating new iconography of migraine aura and therefore will be of help in increasing awareness of this underdiagnosed condition. Art contests are a useful tool for awareness campaigns. The images uploaded were from a great variety of visual auras.

Aura features reported by the participants were like the ones described in previous papers^{8,14}.

Further spread of the images is planned, a book with aura images is under development and hopefully will published soon. The same images could be uploaded and disseminated via social media and website / search engine such as Google. Indeed Health information is one of the most frequently searched topics on the Internet¹⁵.

Availability of aura images to the general public may increase aura diagnosis, improving the access to migraine or other headache sufferers because recognition of visual patterns by patients is likely to occur.

Conclusion

Art contests are useful tools for disease awareness. Further actions in disseminating aura images may help migraine aura underdiagnosis and undertreatment.



References

1. Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet* (London, England). 2015;386(9995):743-800. doi:10.1016/S0140-6736(15)60692-4
2. Merikangas KR. Contributions of epidemiology to our understanding of migraine. *Headache*. 2013;53(2):230-246. doi:10.1111/head.12038
3. Anttila V, Winsvold BS, Gormley P, et al. Genome-wide meta-analysis identifies new susceptibility loci for migraine. *Nat Genet*. 2013;45(8):912-917. doi:10.1038/ng.2676
4. Hougaard A, Amin FM, Ashina M. Migraine and structural abnormalities in the brain. *Curr Opin Neurol*. 2014;27(3):309-314. doi:10.1097/WCO.0000000000000086
5. May A. Understanding migraine as a cycling brain syndrome: reviewing the evidence from functional imaging. *Neurol Sci Off J Ital Neurol Soc Ital Soc Clin Neurophysiol*. 2017;38(Suppl 1):125-130. doi:10.1007/s10072-017-2866-0
6. Headache Classification Committee of the International Headache Society (IHS) The International Classification of Headache Disorders, 3rd edition. *Cephalalgia*. 2018;38(1):1-211. doi:10.1177/0333102417738202
7. Russell MB, Olesen J. A nosographic analysis of the migraine aura in a general population. *Brain*. 1996;119 (Pt 2):355-361. doi:10.1093/brain/119.2.355
8. Viana M, Sances G, Linde M, et al. Clinical features of migraine aura: Results from a prospective diary-aided study. *Cephalalgia*. 2017;37(10):979-989. doi:10.1177/0333102416657147
9. Hansen JM, Goadsby PJ, Charles AC. Variability of clinical features in attacks of migraine with aura. *Cephalalgia*. 2016;36(3):216-224. doi:10.1177/0333102415584601
10. Miller S, Matharu MS. Migraine is underdiagnosed and undertreated. *Practitioner*. 2014;258(1774):2-3,19-24.
11. Blumenfeld AM, Varon SF, Wilcox TK, et al. Disability, HRQoL and resource use among chronic and episodic migraineurs: results from the International Burden of Migraine Study (IBMS). *Cephalalgia*. 2011;31(3):301-315. doi:10.1177/0333102410381145
12. Bigal ME, Serrano D, Reed M, Lipton RB. Chronic migraine in the population: burden, diagnosis, and satisfaction with treatment. *Neurology*. 2008;71(8):559-566. doi:10.1212/01.wnl.0000323925.29520.e7
13. Buse DC, Manack AN, Fanning KM, et al. Chronic migraine prevalence, disability, and sociodemographic factors: results from the American Migraine Prevalence and Prevention Study. *Headache*. 2012;52(10):1456-1470. doi:10.1111/j.1526-4610.2012.02223.x
14. Queiroz LP, Friedman DI, Rapoport AM, Purdy RA. Characteristics of migraine visual aura in Southern Brazil and Northern USA. *Cephalalgia*. 2011;31(16):1652-1658. doi:10.1177/0333102411430263
15. Reuters. Consumer-targeted internet investment: online strategies to improve patient care and product positioning. *Reuters Bus Insight Rep* 2003; May.