

MEETING ABSTRACTS

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INVITED SPEAKER PRESENTATIONS

A1

Kynurenine pathway metabolites in migraine

Ferdinando Nicoletti

Dipartimento di Fisiologia Umana e Farmacologia "V. Ersamer", Università Sapienza di Roma, Rome, Italy

E-mail: ferdinandonicoletti@hotmail.com

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Kynurenine pathway (KP), the quantitatively main branch of tryptophan metabolism, has long been considered a source of nicotinamide adenine dinucleotide, although several of its products, the so-called kynurenines, are endowed with the capacity to activate glutamate receptors, thus potentially influencing a large group of functions in the central nervous system (CNS). In fact, Kynurenic Acid and Quinolinic Acid are able to interact with ionotropic glutamate receptors and Cinnabarinic Acid has been reported as an orthosteric agonist of metabotropic glutamate receptors (mGlu4), and Xanthurenic Acid has been recently demonstrated to be a putative agonist of metabotropic glutamate receptors 2/3 (mGlu2/3). Moreover, 3-HK and 3-HANA have mainly been studied, since they have been shown to induce neurotoxic effects by increasing oxidative stress and the production of free radicals or through excitotoxicity. Migraine has a complex pathophysiology in which both central and peripheral components of the trigeminal pain pathway play a central role. The trigemino-vascular activation during the attack has largely been described, and recently the brainstem nuclei, called "migraine generators", have been reported to be involved in migraine. Moreover, a series of destabilizing events within the brain trigger a cortical spreading depression (CSD), responsible for the aura phenomena and for trigeminal activation. The role of glutamate is heavily supported both in the trigemino-vascular as well as in brainstem nuclei activation, and furthermore in the CSD initiation and propagation. Some of the KP metabolites able to interact both with ionotropic and metabotropic glutamate receptors might be involved in migraine pathophysiology. Despite the large number of studies conducted on migraine etiopathology, the KP has only been recently linked to this disease. Nonetheless, some evidence suggests an intriguing role for some kynurenines, and an exploratory study on the serum kynurenine levels has been helpful to better understand possible alterations of the kynurenine pathway in patients suffering from migraine.

A2

Disability, ICF biopsychosocial model and burden of migraine

Matilde Leonardi^{1*}, Alberto Raggi¹, Licia Grazi², Domenico D'Amico²

¹SOSD Neurologia, Salute Pubblica, Disabilità, Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy; ²UO Neuroalgologia e Centro Cefalee, Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy

E-mail: leonardi@istituto-bestait

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When defining the burden of migraine it is important to consider patients' disability and clinical and public health perspectives. Migraine sufferers often have severe under recognized and underdiagnosed health burden and reductions in social activities and work capacity. Health professionals focus on diagnosis as a key element to effective treatments, however the majority of clinicians still tend to perceive migraine, and headache disorders in general, as minor complaints. Ten years ago a possible way to increase awareness and diminish the burden was described[1]. However epidemiological data of headache disorders, despite the international Lifting the Burden Campaign, is still scarce in many parts of the world and inconsistent because of the sampling frames and of how prevalence rates are defined and the physical, emotional, social and economic burdens of headaches are still poorly acknowledged. Uncertainty about the prevalence distribution reflects that there is still need of instruments for classifying migraine in a comparable manner across populations and that more studies must be undertaken to classify the disability due to the disorder using reliable outcome measures[2]. Estimation of needs for health services, their costs and effectiveness require indicators that go beyond measures of death rates or of diagnosis alone, and include the "functioning" of people. The biopsychosocial model of the WHO Classification of Functioning, Disability and Health (ICF) provides the model, as well as the classification system, that allows to measure all dimensions of functioning and disability[3]. More than ten years of research with ICF in migraine sufferers shows that it allows data comparability and the evaluation of the role of environment. According to ICF construct any health condition, in an unfavourable environment, can cause disability. Environmental barriers for migraine sufferers are lack of health care facilities, of accurate diagnosis, of drugs, but also difficulty in being taken seriously. Steiner[4] drew attention to the high number of people with disability due to headache who do not receive health care. The barriers responsible for this might vary throughout the world, but poor awareness of headache in a context of limited resources generally was still constantly among them. Describing and accounting the burden of migraine worldwide is not enough anymore, we need to change our paradigm again and to move towards new pathways. The opportunity is provided by the biopsychosocial approach of the ICF. To reduce the burden of millions of migraine and headache sufferers once we cannot change the disease, we should change the environment and global efforts should focus on the new development of drugs but mainly on improving the response of health care systems.

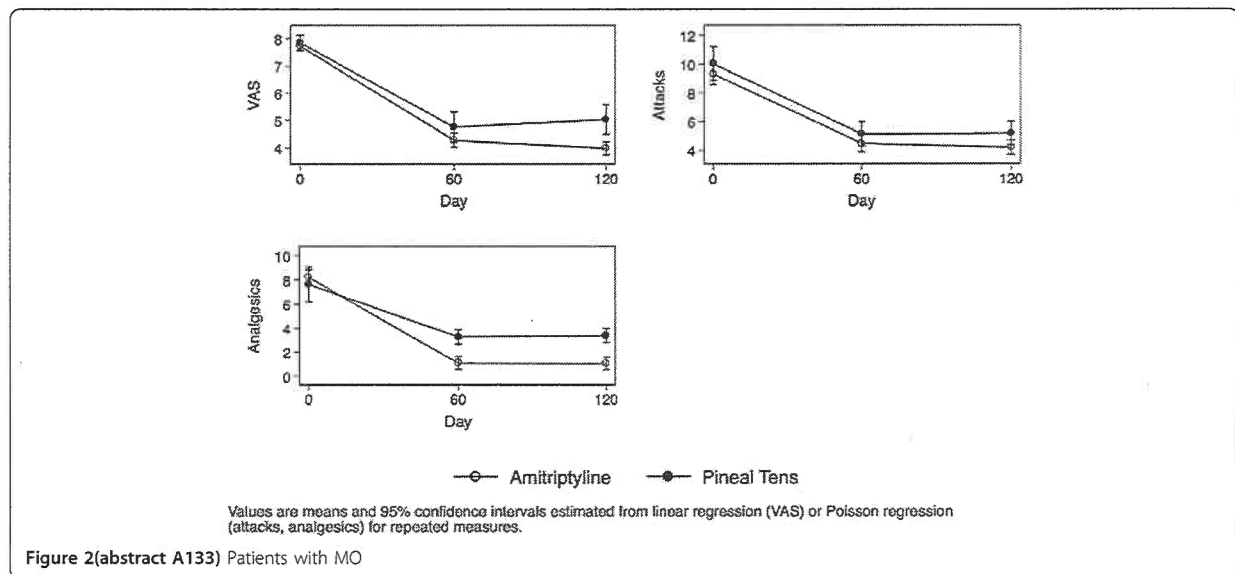
Conflict of interests: The authors certify that there is no actual or potential conflict of interest in relation to this article.

References

1. Leonardi M, Steiner TJ, Scher AT, Lipton RB: The global burden of migraine: measuring disability in headache disorders with WHO's Classification of Functioning, Disability and Health (ICF). *J Headache Pain* 2005, **6**(6):429-40.
2. D'Amico D, Grazi L, Usai S, et al: Disability in Chronic Daily Headache: state of the art and future directions. *Neural Sci* 2011, **32**:S71-6.

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4. Gionco M: Diagnosi e terapia del dolore cranio-facciale primario e secondario. *Manuale delle cefalee 2011* Milano: Lingomed 2011.

A134

O006. Efficacy of prophylactic therapy in chronic primary headache with use of biofeedback

Biagio Ciccone^{1*}, Luigi Balzano², Giacinta D'Otolo³
¹Ambulatorio ATHENA, Saviano (NA), Italy; ²ASL NA3 SUD, Naples, Italy;
³Ambulatorio Athena, Saviano (NA), Italy
 E-mail: ambulatorio@biagiociccone.it
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Introduction: Retrospective study of patients with chronic tension headache (CTH) and chronic migraine (CM).

Objective: To compare the efficacy of biofeedback (BFB) compared to only prophylactic therapy in these primary headaches [1-4].

Materials and methods: We evaluated a total of 8 patients with CTH and 8 patients with CM. All patients had a history of primary headache and had never undergone prophylactic therapy. The observation period lasted 90 days. Four CTH patients and 4 CM patients underwent only prophylactic therapy (amitriptyline 20 mg daily), the remaining 4 CTH and 4 CM prophylactic therapy and BFB training sessions. Assessment tools outcome measures were:

- Headache diary to assess days per month with headache;
- Analgesic consumption and/or triptans;
- Score of the visual analogue pain scale (VAS);
- SEMG parameter for patients who carried out BFB training.

Results: At the end of the 90 day observational period there was a significant improvement (reduction in headache days per month, in VAS score, in analgesic consumption and in SEMG parameter) in CTH and CM patients that had undergone both BFB training and prophylactic therapy

when compared to the group of patients treated only with prophylactic therapy drug.

Discussion and conclusions: The overall data confirmed the efficacy of the BFB training in the prophylaxis of primary headaches, further supporting the benefits already possible with the therapy of only pharmacological prophylaxis (Table 1). The data also showed a clear dominance of efficacy, especially in the forms of chronic tension headache (Table 2).

Written informed consent to publication was obtained from the patient(s).

References

1. Nestoriuc Y, Martin A, Rief W, Andrasik F: Biofeedback treatment for headache: a comprehensive efficacy review. *Appl Psychophysiol Biofeedback* 2008, **33**(3):125-140.
2. Holroyd KA, Penzien DB: Pharmacological versus non-pharmacological prophylaxis of recurrent migraine headache: a meta-analytic review of clinical trials. *Pain* 1990, **42**(1):1-13.
3. Andrasik F: Biofeedback in headache: an overview of approaches and evidence. *Cleve Clin J Med* 2010, **77**(Suppl 3):S72-S76.
4. Nestoriuc Y, Rief W, Martin A: Meta-analysis of biofeedback for tension-type headache: efficacy, specificity, and treatment moderators. *J Consult Clin Psychol* 2008, **76**(3):379-396.

POSTER PRESENTATIONS

A135

P067. Multimodal therapy in the management of MOH: a 3-year experience

Valerio De Angelis^{1*}, Francesca Cherubini², Gaia Nigrelli², Denise Erbuto², Paolo Martelletti¹
¹Department of Clinical and Molecular Medicine, Sapienza University of Rome, Rome, Italy; ²Department of Neurosciences, Mental Health and

Table 1(abstract A134) Overall differences between the two groups after 90 days of therapy

	Frequency	VAS	Analgesic consumption	Triptan consumption	SEMG
CTH	-58%	-37%	-62%		
CTH BFB	-75%	-67%	-86%		-54%
CM	-53%	-34%	-60%	-50%	
CM BFB	-61%	-43%	-75%	-63%	-54%

Efficacia della terapia di profilassi nelle forme croniche di cefalea primaria con utilizzo del Biofeedback

B. Ciccone¹, L. Balzano² G. D'Otolo³

1 Neurofisiopatologo - Ambulatorio ATHENA Saviano (NA)

2 Neurologo - Specialista ambulatoriale ASL NA3 SUD

3 Psicologa-Psicoterapeuta, terapia cognitivo comportamentale, Istruttore BFE Italia, Ambulatorio Athena, Saviano (NA)

Mail ambulatorio@biagiociccone.it; corso europa 32 – 80039 Saviano (NA)

INTRODUZIONE

Studio retrospettivo su pazienti affetti da CTC ed EC. Scopo dello studio: confrontare l'efficacia del biofeedback rispetto alla sola terapia di profilassi di queste cefalee primarie⁽¹⁾;

MATERIALI E METODI

Sono stati valutati in totale 8 pz con CTC e 8 pz con EC. Tutti avevano una storia di cefalea primaria e non avevano mai fatto terapia di profilassi. L'osservazione ha riguardato un periodo di 90 giorni (T0 , T1=90). Di questi 4 pz con CTC hanno effettuato solo terapia di profilassi (amitriptilina 20 mg die) senza BFB, i restanti 4 hanno effettuato sia terapia di profilassi (amitriptilina 20 mg die) che BFB; così anche i 4 pz con EC.

Come strumenti di valutazione di OUTCOME primario sono stati utilizzati il DIARIO della cefalea per valutare i giorni mese con cefalea, il consumo di analgesici e/o di triptani, la scala del dolore VAS e il parametro sEMG per i pazienti che effettuavano BFB.

RISULTATI

Dopo 90 giorni di osservazione i pazienti con CTC che facevano solo terapia di profilassi avevano una riduzione dei giorni mese cefalea del 58%, mentre quelli che associavano il BFB miglioravano del 75% quindi con una differenza del 17%,

vas, analgesici e semg

i pazienti con EC parametri

tabella 1 differenze fra i due gruppi

	Freq	VAS	Anal	trip	EMG
CTC	58	37	62%		
ctc bf	75%	67%	86%		54%
ec	53%	34%	60%	50%	
ec bf	61%	43%	75	63%	54%

Tabella 2

Differenze fra CTC e EC in trattamento con BFB

	Freq	VAS	Anal	trip	EMG
differenze CTC BF	17	30	15		50
differenze EC BF	8	9	15	13	50

DISCUSSIONE e CONCLUSIONI

I dati complessivi confermano l'efficacia del BFB nella profilassi delle cefalee primarie, rafforzando i benefici già possibili con la sola terapia di profilassi farmacologica (vedi tabella 1) e mostrano la sua netta prevalenza di efficacia soprattutto nelle forme di cefalea tensiva cronica (vedi tabella 2).

BIBLIOGRAFIA

(1) HOLROYD K.A. – D.B. PENZIEN, *Pharmacological versus non-pharmacological prophylaxis of recurrent migraine headache: a meta-analytic review of clinical trials*, in Pain, 42 (1990), 1-13.