

Image:

Results: Patients had remission of cluster headache period within 7 days of treatment with combinations of paracetamol with tramadol as abortive treatments, decongestant and amoxicillin with clavulanic acid 50 mg/kg/day three daily for 10 days as initial treatment. There were no attacks anymore. NRS reduce until zero. Sinus headaches are an uncommon type of headache caused by inflamed sinuses (sinusitis). Sinus headache typically occurs in the area of the sinuses in the area of the cheeks (maxillary sinus), bridge of the nose (ethmoid sinus), or above the eyes (frontal sinus). Less often it may refer pain to the top or back of the head (sphenoid sinus). Sinus headache may occur on one side or both sides of the head and the neck is typically not involved. The symptoms are frequently worsened by bending over or coughing (as with migraine), and examination of the facial area may reveal local tenderness, redness, swelling, and possibly the presence of clear or discolored nasal discharge. Sinus disease can happen to people who suffer from migraine or to those who do not and may lead to increased migraine activity in migraine sufferers, often confusing the diagnosis. Upon determining that a headache's origin is a sinus infection, short-term antibiotics (typically less than 2 weeks) and decongestants (several days only) may be prescribed. Allergic sinusitis may respond to simple antihistamine and steroid-based nasal sprays. A chronic sinus infection may require weeks of therapy, various antibiotic regimens, or the judicious use of supportive steroid preparations. Sometimes nasal surgery is indicated to correct underlying anatomical factors.

Conclusion: The initial presentation of sinus infection is so similar to migraine that it is often mistakenly diagnosed and treated like just another headache. However, despite overlapping symptoms, differences between the two entities can be distinguished through a careful evaluation.

Disclosure of Interest: None Declared

© International Headache Society 2017

Headache Education for Clinicians and Patients

PO-02-157

The Prevalence and Characteristics of Cranial Autonomic Symptoms (CAS) in Migraine Patients with or without Aura

Mansoureh Togha^{1*}, Abolfazl Farbod²
and Zeinab Ghorbani³

¹Headache, Iranian Center of Neurological Researches, Neuroscience Institute

²Headache department

³Headache, Iranian Center of Neurological Research, Neuroscience Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic Of

Objectives: Cranial autonomic symptoms (CAS) include a broad spectrum of symptoms such as conjunctival injection, lacrimation, nasal congestion, eyelid oedema, forehead or facial sweating, miosis, ptosis and facial flushing which all are key features of trigeminal autonomic cephalalgias (TACs). However, CAS may also present with migraine attacks. Based on the literature, compared with TACs patients, these symptoms are more bilateral, less severe, often unrelated to the headache side and less dependent to headache attack in migraine patients. It has been also reported that CAS can occur in 27% to 73% of migrainures. In this study we aimed to explore the prevalence and characteristics of CAS in migraine with and without aura.

Methods: This retrospective study was conducted on patients with migraine diagnosis referred to a private headache clinic in Tehran between January 2011 to January 2015. Migraine diagnosis was based on the latest international headache society criteria (ICHD III). Medical records, status of CAS and other non-autonomic parameters of patients with migraine (with or without aura) were recorded. Data analysis was performed using SPSS19.

Results: Of 657 patients (aged 38.78 ± 14.15 years), 68.6% were female, and 60.1% had episodic migraine. Regarding headache characteristics, in 40.6% of patients it was unilateral. The mean frequency and intensity of headache were 7.83 ± 1.71 and 13.28 ± 8.48 days, respectively. The prevalence of CAS was as follows: conjunctival injection (28.9%), lacrimation (24.4%), nasal congestion (15.2%), ear fullness (15.2%), rhinorrhea (11%), eyelid oedema (10.2%), forehead or facial sweating (4.9%), flushing (4.1%), ptosis (2.1%) and miosis (0.9%). 64.2% of patients had at least one CA symptom. Presence of CAS was significantly higher in migraineurs with aura (80.6%) than those without aura (61.4%, ($p=0.00$)). However, CAS did not differ between patients with unilateral and bilateral headaches. Tearing and nasal congestion were also significantly more prevalent in patients with more severe

and frequent headaches (17.3%, 15.0%, 25.2% and 17.0%, respectively $p < 0.05$) than others.

Conclusion: Due to high prevalence of CAS in our study, these symptoms might not be a specific characteristic of TACs, especially for differentiation of hemicrania continua that share some common characteristics with chronic migraine. Also, these finding may raise a question about the possible distinctive therapeutic approaches in migraine with and without autonomic features. Our findings further confirm the idea of involvement of trigeminal autonomic reflex in the migraine headaches. Furthermore, the presence of CAS might be a sign of migraine progression. Larger prospective studies are suggested for more precise results.

Disclosure of Interest: None Declared

Headache Epidemiology, Outcomes and Burden

PO-02-159

Characteristics and diagnoses of acute headache in pregnant women—a retrospective cross-sectional study

Bianca Raffaelli¹, Eberhard Siebert², Heike Israel-Willner¹, Jeannette Körner¹, Thomas Liman¹, Uwe Reuter¹ and Lars Neeb^{1,*}

¹Department of Neurology with Experimental Neurology

²Institute of Neuroradiology, Charité Universitätsmedizin Berlin, Berlin, Germany

Objectives: Acute headache is one of the most frequent neurological symptoms in pregnant women. Early diagnosis of underlying secondary conditions has a major influence on patient outcome, especially in emergency settings. However, at the time being no well-established guideline for diagnostic evaluation of acute headache during pregnancy exists. We aimed to characterize acute headache in pregnant women in a European urban population concerning demographic, clinical, and diagnostic features, and to determine predictors of secondary headache.

Methods: We analysed retrospectively the data of 151 pregnant women who received neurological consultation due to acute headache between 2010 and 2016 at the Charité hospital in Berlin, Germany. To assess risk factors for secondary headache in these patients we compared multiple anamnestic and clinical features of the primary and secondary headache group. Subgroup proportions were compared using chi-squared test. Logistic regression was used to assess the correlation between clinical features with a p value ≤ 0.02 in univariate analyses as independent variables and the dependant variable being the final diagnosis secondary headache.

Results: Patients had a mean age of 30.1 (IQR 10.0) years, a mean gestational age of 22.2 (± 10.1) weeks and 2.1

(± 1.7) pregnancies. 57.6% of the patients were diagnosed with primary headache, most common migraine with aura (41.3%), migraine without aura (33.3%) and tension type headache (21.8%). Within secondary headaches, the most common aetiologies were infections (29.7%) and hypertensive disorders (22.0%). The primary and secondary headache group were similar in most anamnestic and clinical features. In univariate analysis, secondary headaches were associated with complications during current pregnancy (28.1 vs. 12.6%, $p = 0.017$), history of secondary headache disorders (14.1 vs. 3.4%, $p = 0.017$), progressive pain dynamic (37.2 vs. 19.3%, $p = 0.046$), seizures (4.7 vs. 0.0%, $p = 0.041$), abnormal internal examination (15.9 vs. 4.8%, $p = 0.025$), elevated blood pressure (31.7 vs. 8.4%, $p < 0.001$), fever (14.1 vs. 1.1%, $p = 0.002$) and abnormal neurological examination (35.9 vs. 11.5%, $p < 0.001$). In multivariate logistic regression, history of secondary headache disorders [OR 6.6; 95% CI 1.3–33.1], elevated blood pressure [OR 7.2; 95% CI 2.3–22.6], fever [OR 12.1; 95% CI 1.3–111.0] and abnormal neurological examination [OR 9.9; 95% CI 2.7–36.3] represented independent predictors for secondary headache. Regarding additional diagnostic procedures, blood tests were conducted in 94.7% of the cases, urine analysis in 57%, lumbar puncture in 13.2% and neuroimaging in 50.3%. Abnormal thrombocytes, GOT, GPT and CRP, proteinuria, as well pathologic results of lumbar puncture and/or neuroimaging were associated with secondary headache.

Conclusion: Secondary headache disorders are common during pregnancy, occurring in over one third of acute headache cases receiving neurological consultation. Most anamnestic and clinical features may not allow a clear distinction between primary and secondary headaches. Clinicians should pay particular attention in presence of secondary headache history, elevated blood pressure, fever and abnormal findings in the neurological examination. These symptoms can be considered as predictors for secondary headache in pregnant women. However, attack features alone cannot adequately discriminate between primary and secondary headache. Additional diagnostic investigations, including laboratory tests and neuroimaging, are essential for the diagnostic process.

Disclosure of Interest: None Declared

(12.8% vs. 7.3% $p = 0.056$) was slightly higher, but marginally significant.

Conclusion: Results demonstrated a statistically significant increase in HRU in terms of HCPs, neurologists, psychiatrists, and ED visits for migraine patients compared with non-migraine controls. To help reduce the burden of migraine on the European healthcare system better treatment options for migraineurs should be investigated.

Disclosure of Interest: P. Vo Conflict with: Novartis, A. Bilitou Conflict with: Novartis, J. Fang Conflict with: Novartis, A. Laflamme Conflict with: Novartis, S. Gupta Conflict with: Kantar Health

Migraine Preventive Therapy

PO-02-182

The Effects of Aerobic Exercise on migraine headache intensity

Maryam Seyfi-shahpar¹, Maryam Abolhasani², Soodeh Razeghi Jahromi^{1,3,*}, Fahimeh Martami¹, Mansoureh Togha³ and Zeinab Ghorbani^{3,4}

¹Department of Clinical Nutrition and Dietetics, Faculty of Nutrition and Food Technology, Beheshti University of Medical Sciences

²Sports Medicine Research Center, Neuroscience Institute

³Headache Department, Iranian Center of Neurological Research, Neuroscience Institute

⁴School of Nutritional Sciences and Dietetics, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic Of

Objectives: For people with migraine, exercise is often suggested to health promotion and disease prevention. Recently the role of exercise in the management of migraine is considered, but there are no guidelines in the literature regarding how patients with migraine should be instructed to exercise. The aim of this study was to evaluate the influence of an aerobic exercise on migraine intensity.

Methods: In this study 50 untrained patients were recruited and randomized to two groups. The intervention group ($n = 25$) participated in aerobic exercise program 3 times per week during 8 weeks, for 45–60 minutes with intensity between 50% to 65% of maximal heart rate. Control group only received common medical treatment without change. Borg's Rate of Perceived Exertion scale (RPE scale, 6–20) was used to set the training intensity. Each training session included a 15-minute warm-up period (intensity: RPE scale, 11–13).the intensity of migraine headache was measured at the baseline and after intervention with VAS (Visual Analog Scale).

Results: The intensity of migraine headache reduced significantly in exercise group (1.95 ± 0.8) compared to control group (0.81 ± 1). ($P = 0.00$)

Conclusion: Incorporating exercise into common headache treatments may be a useful approach to managing migraine headache symptoms. According to our study aerobic exercise with moderate intensity can reduce intensity of migraine headache. Future study is recommended to evaluate the efficacy of other types of exercise with different intensity in migraine headache management.

Disclosure of Interest: None Declared

Migraine Preventive Therapy

PO-02-183

Multi-species probiotic mixture can attenuate the severity of episodic migraine- a double blind randomized controlled trial

Fahimeh Martami¹, Maryam Seyfi-shahpar¹, Zeinab Ghorbani^{2,3}, Soodeh Razeghi Jahromi^{1,3,*}, Mansoureh Togha³ and Hossein Ansari⁴

¹Department of Clinical Nutrition and Dietetics, Faculty of Nutrition and Food Technology, Beheshti University of Medical Sciences

²School of Nutritional Sciences and Dietetics

³Headache Department, Iranian Center of Neurological Research, Neuroscience Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic Of

⁴UC San Diego, San Diego, United States

Objectives: Migraine is a recurrent disorder with a lifetime prevalence of 13% in men and 33% in women. Pro-inflammatory cytokines can act on the nociceptors of the trigeminal nerve, causing migraine. A strong trigger of pro-inflammatory immune responses is the leakage of lipopolysaccharides from the intestinal lumen into the circulation. Probiotics are able to improve the intestinal barrier defense mechanism and stimulate the production of tight junctional protein mucins. These effects limit small intestinal permeability and suppress inflammation. Therefore probiotics supplementation can have beneficial effect in migraineurs. In current double blind, placebo-controlled trial, we investigated the effect of a probiotic supplementation containing 14 bacterial strains as an adjuvant therapy on severity and incidence of episodic migraine.

Methods: 50 migraineurs, 35 female and 15 male (mean age of 38.74 ± 7.5 Y) were recruited and randomly assigned to placebo and probiotic group (two capsules/d for 8 weeks). Probiotic supplement (Bio-Kult-protexin: $2 \times (10)^9$ CFU/capsule) contained 14 bacterial strains included Bacillus subtilis PXN 21, Bifidobacterium bifidum PXN 23, Bifidobacterium breve PXN 25, Bifidobacterium infantis PXN 27, Bifidobacterium longum PXN 30,

Lactobacillus acidophilus PXN 35, Lactob. delbrueckii ssp. bulgaricus PXN 39, Lactob. casei PXN 37, Lactob. plantarum PXN 47, Lactob. rhamnosus PXN 54, Lactob. helveticus PXN 45, Lactob. salivarius PXN 57, Lactococcus lactis ssp. lactis PXN 63, Streptococcus thermophilus PXN 66. Episodic migraine was diagnosed by neurologist according to ICHD III beta criteria. Demographic characteristics, medications, precedent medical history of gastrointestinal disorders, anthropometric measurements, and Migraine disability assessment scale (MIDAS) were documented at baseline visit and at the end of the study. During the intervention, all patients were instructed to record frequency, intensity (10-point scale), and duration of migraine attacks, as well as used analgesics.

Results: Eight weeks of probiotic consumption resulted in significant reduction of the frequency (from 7 ± 3 to 4 ± 3 days/week), intensity (7 ± 2 to 5 ± 1), and duration (7.25 ± 3.7 to 7.02 ± 3.7 hours/day) of attacks ($P = 0.001$, 0.000 , 0.004 respectively). In placebo group, the intensity and frequency of attacks did not change significantly. Probiotic supplementation also significantly affected MIDAS and analgesics consumption ($p < 0.001$). The mean reduction of the frequency, intensity, MDAS, and analgesics consumption was significantly greater in probiotic group compared to placebo ($P = 0/001$, 0.007 , 0.000 , and 0.007 respectively). The differences remained significant after adjusting for confounding factors.

Conclusion: In patients with episodic migraine, adding probiotic to current prophylactic medication might beneficially affect headache control.

Disclosure of Interest: None Declared

Migraine Preventive Therapy

PO-02-184

Real-world patient perspective on the burden and impact of migraine

Elena Ruiz de la Torre¹, Paolo Martelletti^{2,3}, Audrey Craven^{1,4}, Donna Walsh⁴, Simon Evans⁵, Paula Dumas⁶, Hans-Christoph Diener⁷, Michel Lanteri-Minet⁸, Todd J. Schwedt⁹, Jean-Pierre Malkowski¹⁰, Monisha Sodha¹¹, Susann Walda¹¹, Anne Aronsson¹¹, Annik Laflamme¹⁰ and Pamela Vo^{10,*}

¹European Headache Alliance

²European Headache Federation

³Department of Clinical and Molecular Medicine, Sapienza University of Rome, Rome, Italy

⁴European Federation of Neurological Associations

⁵Migraine Action, United Kingdom

⁶Migraine Again, United States

⁷Department of Neurology and Headache Center, University of Duisburg-Essen, Germany

⁸Département d'Évaluation et Traitement de la Douleur, Centre Hospitalo-Universitaire de Nice, France

⁹Department of Neurology, Mayo Clinic, United States

¹⁰Novartis Pharma AG, Basel

¹¹GfK Health, Switzerland

Objectives: Migraine is a prevalent condition affecting about 11% of the adult population. It has debilitating symptoms and affects patient functioning. The present study was undertaken to understand the full burden and impact of migraine in everyday life from the patient's point of view.

Methods: This cross-sectional study was conducted using Online Bulletin Boards (OBB). This interface was developed for online survey, discussions and interactions led by a trained facilitator over a period of 4 consecutive days. Adults with chronic and episodic migraine aged between 25 and 60 years old were recruited to participate in 6 OBBs established in Germany, Italy and USA (2 per country). Participants were blinded to each other and agreed to partake for at least 30 minutes each day in the OBBs, where they were asked to respond to specific questions on migraine and to provide their perspective on statements and other participants' blinded responses. All responses were aggregated by country and qualitatively analyzed.

Image:

Migraine Attack Triggers	Migraine Symptoms	Coping Mechanisms
Bright light 97% (n=58)	Pounding / throbbing pain 97% (n=58)	Laying down in darkened room 97% (n=58)
Loud / repetitive sounds 93% (n=56)	Photophobia 97% (n=58)	Avoidance of sounds/noise 95% (n=57)
Stress 93% (n=56)	Sensitivity to sound and noise 93% (n=56)	Medication use 77% (n=46)

Results: A total of 60 migraine patients participated in this pilot phase of a large global study (20 per country). About half (47%, n = 28) reported having been diagnosed with migraine, either by a general practitioner (GP) or neurologist within the year following the date of their 1st symptoms. Table 1 summarizes the 3 most common migraine attack triggers, symptoms, and coping mechanisms reported by patients. All respondents reported important limitations resulting from migraines in private, professional and social aspects of life, mainly the disruption of daily routines, significant strain on personal relationships, difficulty caring for children, and missed days of work, deadlines, or social events. Anxiety and frustration were most frequently reported as emotional consequences of migraine in private/social life (92% and 72%) and work (97% and 88%). 87% of patients (n = 52) had seen a physician for migraine management but many (85%, n = 51) did

≥50 % during the workday due to headache) were reduced by 21% and 34% respectively ($P < 0.001$).

Conclusion: Globally standardized treatment of MOH significantly reduced the direct healthcare costs and increased productivity. This emphasizes the urgent need for awareness and treatment of MOH.

Disclosure of Interest: None Declared

Other Secondary Headache Disorders

PO-02-188

“Pure” detoxification for medication-overuse headache is the most effective treatment: A randomized controlled trial with 6- and 12-month follow-up

Louise N. Carlsen¹, Signe B. Munksgaard^{1*}, Lars Bendtsen¹ and Rigmor H. Jensen¹

¹Danish Headache Center, Department of Neurology, Rigshospitalet, University of Copenhagen, Glostrup, Denmark

Objectives: There is lack of evidence on how acute headache medication should be reduced during detoxification for medication-overuse headache (MOH). The aim of this study was to compare the effect of a two-month complete stop of all acute headache medication with a restricted intake in MOH patients.

Methods: MOH-patients were included in a prospective, open-label study and randomized to a 2-months outpatient detoxification program with either A) no acute headache medication or B) acute headache medication restricted to two days/week. Both groups received education on MOH and headache in general and were followed up at 2, 6 and 12 month.

Results: We included 72 patients. Of these 59 succeeded in detoxification, 58 (81%) were followed-up at 6 months and 53 (74%) at 12 months. Patients in program A had a significantly higher reduction in the primary efficacy parameter headache frequency (25 to 13 days/month; 46%) at 6-months follow-up than patients in program B (25 to 19 days/month; 22%) ($p = 0.005$). After 12 months, headache frequency was reduced by 45% to 13.8 days/month in Program A, and by 31% to 17.0 days/month in Program B ($p = 0.14$).

Significantly more patients in program A reverted to episodic headache at 6-month (70% vs. 42%, $p = 0.04$) and 12-month follow-up (74% vs. 42%, $p = 0.02$).

The number of patients with chronic migraine was decreased from 15 to 1 in program A and from 17 to 8 in program B ($p = 0.02$).

There were no differences in drop-out rates between the two groups.

Conclusion: Detoxification without any acute medication for two months was more effective than detoxification with restricted intake of analgesics in reducing headache frequency, in converting MOH to episodic headache and particularly in reducing the number of patients with chronic migraine.

Disclosure of Interest: L. Carlsen: None Declared, S. Munksgaard Conflict with: Merck, Allergan, Conflict with: Berlin-Chemie, UCB, L. Bendtsen Conflict with: Allergan, Novartis and Biogen, R. Jensen Conflict with: ATI, Electrocore, Eli-Lilly and Linde Gas Ltd, Conflict with: Pfizer, Berlin-Chemie, Allergan, Merck, ATI

Other Secondary Headache Disorders

PO-02-189

Prevalence of Migraine in Patients with Idiopathic Intracranial Hypertension (IIH) in Comparison to the general population

Mansoureh Togha^{1*}, Kamran Shirbache¹, Reza Rahmzadeh¹, Zeinab Ghorbani¹, Shirin Behbahani¹ and Farshid Refaeian¹

¹Headache department, Iranian Center of Neurological Research, Neuroscience Institute, Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic Of

Objectives: Idiopathic intracranial hypertension (IIH) is a neurological disorder that is characterized by increased intracranial pressure (ICP) accompanied by a small or normal sized ventricles of the brain. The main presenting symptom of IIH is headache that usually is severe. IIH may lead to visual and hearing impairment or even loss of vision. The initial treatment would be medical and conservative. However, some patients may even need surgical intervention to divert CSF flow to decrease the intracranial pressure. On the other hand it seems that migraine headache is common among IIH patients and sometimes it is misdiagnosed as the headache of IIH and might lead to inappropriate management. In the present study, the prevalence of migraine in IIH patients is explored in comparison with the normal population.

Methods: In this case-control study, the presence of migraine in 108 IIH patients was evaluated in comparison to 103 non-IIH subjects. The diagnosis of IIH and migraine was done according to the diagnosis criteria of high opening CSF pressure ($>25-40\text{cmH}_2\text{O}$) and (ICHD III beta) criteria. In order to collect the required information, all subjects were interviewed by a trained medical student. A checklist for migraine diagnosis was filed. Demographic data was collected. IIH patient' medical documents were explored and variables such as age, BMI (Body Mass Index), Cerebro-Spinal Fluid pressure, presence or absence of

Papilledema were studied. Data analysis was done using Stata software, Version 11.

Results: 211 subjects (86.7% female) with mean age of 38.04 ± 12.19 and mean BMI of 28.12 ± 4.93 kg/m² were studied. In the IIH patients 93 cases (81.6%) had papilledema and the mean CSF pressure was 32.10 cm H₂O (Range: 26 cm H₂O to 65 cm H₂O). There were 70 (64.8%) and 22 (21.4%) migraine patients in case and control groups respectively which the difference was found significant (P-value < 0.001). In 26 of 70 (24.1%) migraine cases in IIH group the disorder was diagnosed after developing IIH. The risk of affecting by migraine in IIH

patients was 6.17 times greater than the non-IIH group (95%CI = 3.56–14.36 $p < 0.01$).

Conclusion: According to the higher probability of migraine and even the possibility of developing new onset migraine in IIH patients, taking precise headache history in the follow up period is necessary. This consideration prevents misdiagnosis of migraine headache as the recurrence of IIH or uncontrolled IIH and its inappropriate management.

Disclosure of Interest: None Declared

This document was created with Win2PDF available at <http://www.daneprairie.com>.
The unregistered version of Win2PDF is for evaluation or non-commercial use only.